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ABSTRACT

Vocational education appeared in China around 1870. Modern vocational schools were established in the Fujian and Jiangxi provinces. A system of vocational schools was set up in 1902. A number of senior vocational schools were set up between 1937 and 1945, but the foundation of vocational-technical education was very weak. Since the founding of the People's Republic of China in 1949, technical and vocational education has undergone a continuous process of reforms, readjustment, and improvement coupled with intermittent twists and turns. To strengthen the supervision over educational work, the State Education Commission was established in June 1985 to replace the Ministry of Education. The administrative system of secondary vocational and technical schools consists of specialized secondary schools, workers' training schools, and senior middle vocational schools. Funds for higher vocational specialized schools come from state appropriations for institutions of higher education, whereas specialized secondary schools are run by the central or local governmental departments. (Appendixes include general facts about China, the text of major pieces of pertinent educational legislation, diagrams of the administrative structure of vocational-technical education and the series of school systems, tables on the numbers of students attending schools, a curriculum outline, and the names of executive officials involved in vocational-technical education.) (MN)

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STUDIES IN TECHNICAL AND VOCATIONAL EDUCATION

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UNESCO

Policy, Planning and Administration of Technical and Vocational Education

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POLICY, PLANNING AND ADMINISTRATION
OF
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IN CHINA

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PREFACE

The present document is a further addition to the series "Studies in Technical and Vocational Education". These studies are based on a Unesco policy instrument, the Revised Recommendation concerning Technical and Vocational Education, which was adopted by the General Conference at its eighteenth session in November 1974. Furthermore, they are in conformity with Approved Programmes 20 C/5, 21 C/5, 22 C/5 and 23 C/5, which indicated that a number of guides, studies and publications in the field of technical and vocational education would be reproduced. The studies are intended to assist policy-makers, planners, administrators and experts in technical and vocational education. They reflect Unesco's concern with fostering an effective exchange of experiences and ideas in this field as well as Member States' efforts in promoting the implementation of the Revised Recommendation and the development and expansion of technical and vocational education.

The studies, which were prepared under contract for Unesco, should be considered as information documents that require continual revision and updating. A list of the studies appears at the beginning of this document.

We wish to express our appreciation to all those who participated in preparing this study and hope that it will provide its readers with information useful to them in the promotion and development of technical and vocational education.

The views expressed in this study are those of the individual(s) concerned with its preparation and do not necessarily reflect those of Unesco. The designations employed and the presentation of the material do not imply the expression of any opinion whatsoever on the part of the Unesco Secretariat concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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A SURVEY OF THE POLICY, PLANNING AND ADMINISTRATION OF THE TECHNICAL AND VOCATIONAL EDUCATION IN CHINA

I. INTRODUCTION

Vocational education is an embronic form appeared in China around 1970. Modern vocational school were established in Fujian and Jiangxi provinces. In 1902 the Quing Governmental promulgated the "Imperial Ordinance on Schools". A system of vocational education was then set up.

After the founding of the Republic of China in 1912, the Kuomintang Government promulgated a "Law on Vocational Schools" and "Statutes of Vocational Schools".

During the War or Resistance Against Japanese invation from 1937 to 1945, the Kuomintang Government set up a number of senior vocational schools in areas under its jurisdiction. In anti-Japanese base areas under the control of the Communist Party, the Democratic Governments there also launched vocational education like the establishment of a fairly large Central Agricultural School, formulated provisional regulations on short-term vocational middle schools and called for and supported the establishment of specialized schools in the fields of industry, railway transport, posts and telecommunications and public health.

In semi-feudal and semi-colonial old China, commodity economy grew at a snail's pace. The foundation of technical and vocational education was very weak.

Ever since the founding of the People's Republic of China in 1949, technical and vocational education in China has gone through a continuous process of reforms, readjustment and improvement coupled with intermittent twists and turns.

Let's explain this process in three different stages.

1. IN THE 17 YEARS FROM THE FOUNDING OF THE PEOPLE'S REPUBLIC OF CHINA TO THE TIME BEFORE THE LAUNCHING OF THE "CULTURAL REVOLUTION" (1949-1965).

A. Establishment of Specialized Secondary Education.

After the founding of New China, the People's Government took over the old senior vocational schools from the Kuomintang Government, recovered sovereignty over schools run by foreigners, reformed these schools step by step and with prudence and set up a number of specialized secondary schools. In addition, it also overhauled and reformed the various privately-run technical schools in major and medium-sized cities, improved the administration over these schools and helped develop some of them with better facilities into specialized secondary schools. Contracts were signed with those remaining for the training of certain categories of technicians. With the introduction of the First Five-Year Plan in 1953 in China, educational development was incorporated into the state plan. In accordance with the requirement for planned and proportionate development, the state made an over-all planning of the development of educational undertakings at various levels. In addition to the readjustment of those existing specialised secondary schools, the state also set up a number of new specialized secondary schools in this period in accordance with the need of economic construction and national defence.

There were 728 specialized secondary schools with and enrolment of 482.000 students in 1957. This showed a big quantitative expansion and qualitative improvement as compared with 72 schools with 137.000 students in 1946, the peak year of enrolment in old China.

The Chinese Ministry of Education convened a national working conference on especialized secondary education each in June 1951, June 1954 and May 1956. At these conferences principles were laid down with regard to the policies of running these schools, the purposes of training and the system of administrative control or governance. "Regulations on Specialized Secondary Schools" were issued and a mid-term development programme adopted. In this period, principles were also laid down concerning especialized courses and teaching plans of specialized secondary schools and necessary teaching programmes and materials were prepared. All this laid the foundation for the development of specialized secondary education on a new basis. Thus a fairly comprehensive

system of specialized secondary education began to operate in China. This system embraced schools of industry, agriculture, forestry, medicine, finance and economics, politics and law, physical education and fine arts.

Since the purpose of specialized secondary schools is to train middle-level technical and administrative personnel for the various sectors of the national economy and culture, they have become an essential part of the infrastructure of technical education in China. In 17 years these schools turned out 2.950.000 graduates, providing energetic support to national reconstruction. In 1965 there were 871 specialized secondary schools with an enrolment of 392.000 students.

B. Skilled Workers School Education

In old China skilled workers were trained by the traditional apprenticeship system in which a master worker supervised the training of one or several apprentices. Such a system is still being applied in a number of economic sectors.

During the period of the national economic recovery from 1949 to 1952, the Chinese Government sponsored various vocational classes to train over four million job-seeking workers who became unemployed in old China. This measure helped these unemployed workers to learn new skills and get jobs and paved the way for the development for workers training schools. A large number of skilled workers were assigned jobs in various sectors of the national economy.

Many new workers training schools were established by various departments in various localities with the booming growth of the economy, especially in connection with the construction of 156 key projets, in the First Five-Year period from 1953 to 1957. The Chinese Government resolved in 1953 that the Ministry of Labour should exercise comprehensive control over all the workers training schools in China, be responsible for formulating the principles, policies and rules and regulations concerning the workers training schools, organize the preparation and review of teaching plans, programmes and materials for approval, and sponsor the training of teachers and the exchange of expe-

rience. In 1955, the Ministry of Labour convened the first national conference of principals of workers training schools. At the conference it was proposed that the task of workers training schools is to implement the policy of laying emphasis on the acquirement of practical skills through productive practice so that the students thus trained shall have technical knowledge and theory as well as practical operating skills and acquire the ability to operate machines independently fairly quickly at their posts. The implementation of this policy played a positive role in fulfilling the Five-Year Plan.

The workers training schools whose objective is to train middlevel skilled workers have become an important part of vocational education in China following their development in this period. There were only three workers training schools with an enrolment of 2.700 students in 1949. By 1964 the number of these schools had grown to 334 with an enrolment of 123.000 students.

C. Vocational Middle School Education

In 1958, the Chinese Government made great efforts to establish agricultural, industrial and handicraft middle schools. Many agricultural middle schools were set up first in Jiangsu, Zhejiang, Henan, Furjian and Liaoning provinces and then in other provinces and cities. In these schools great numbers of primary school graduates and youth with comparable educational level were trained into semi-skilled workers with a certain knowledge of agricultural production.

In 1963 the Chinese Government reaffirmed the importance of vocational education, setting forth the policy of attaching equal importance to general education and vocational education. The government also demanded that plans be drawn up by various local authorities to establish a certain number of vocational schools each year. It also decided that beginning with 1963, there sould be no excessive increase in the number of general junior middle schools, that main efforts should be made to develop vocational middle schools, that instead of primarily converting junior middle schools into vocational middle schools, various factories and mines and enterprises under the industrial, communications, financial and trading departments as well as big farms and

forestry centers should run vocational schools, that the state and the army should also set up some such schools and that vocational classes be opened in middle schools. The greatest majority of vocational middle schools should be geared to the needs of the countryside.

Vocational middle schools advanced so quickly that the structure of secondary education became better fitted to the need of economic development. By the end of 1965, all the senior middle schools in China had a total enrolment of 2 731.000 students.

They included 1,308.000 general senior middle school students (47.9 percent) and 1 423.000 students of specialized secondary schools, workers training schools and vocational senior middle schools (52.1 percent). All junior middle schools in China had a total enrolment of 11 691.000 students. They included 8 030.000 general junior middle school students (68.7 percent) and 3 661.000 vocational junior middle school students (31.3 percent).

2. THE PERIOD OF "CULTURAL REVOLUTION" (1966-1976).

Educational undertaking suffered grave damages during the 10 year turmoil from May 1966 to October 1976. Admission of new entrants at specialized secondary schools and workers training schools was suspended for four years. A large number of these schools were forced to close down or shifted to other purposes. The great majority of vocational middle schools were abolished. The contingent of teachers suffered great losses and many school buildings were requisitioned with great losses of teaching instruments and equipment, facilities and books and other materials. A whole generation had their time wasted not due to their own fault. Educational standards in various schools declined greatly.

In this decade of turmoil there was great retrenchment of technical and vocational education in China. Instead of having a parallel growth of of general education and vocational education as required for the secondary education, there was a lop-sided development of general middle schools which

resulted in a unitary structure of the secondary education. In 1976, the aggregate number of students studying in specialized secondary schools, workers training schools and vocational senior middle schools accounted for 1.16 percent of the total school population at the senior secondary stage. Such unitary structure of secondary education dislocated the proper proportion between high and middle-level professional manpower and was disadvantageous to those many young job-seekers. Together with the decline in educational standards, this brought an adverse effect on the economic and social development.

3. NINE YEARS OF VIGOROUS EFFORTS TO REHABILITATE AND REFORM THE EDUCATIONAL UNDERTAKINGS (1977-1985).

The end of the "Cultural Revolution" in October 1976 ushered in a new historical stage of development in China. Educational work began to take the right path. With the restoration of the unified entrance examination for the institutions of higher education throughout China in 1977, entrance examination by specialized secondary schools and workers training schools was also resumed. This gave scope to students' enthusiasm to study and raised the standards of the new enrollers. Working regulations for primary and middle schools as well as colleges and universities were reintroduced in 1978. Improved rules and regulations about specialized secondary schools and workers training schools were formulated in 1979. Order and discipline in classrooms were restored and educational standards improved step by step. Initial progress was reported in China's technical and vocational education in the process readjustment and consolidation.

A major change has taken place in the Chinese Government's economic and social development strategy since 1979. The status and functions of the whole educational enterprise including technical and vocational education have been constantly upgraded and strengthened. The policy of "readjustment, restructuring, consolidation and improvement" in the field of education has been implemented over the past few years. Technical and vocational education has taken on a new look and made gratifying progress.

A. Diversified Development of Technical and Vocational Education.

Specialized secondary education remains to be the mainstay of technical and vocational education. In April 1980, the Ministry of Education convened a national working conference on specialized secondary education. The conference summed up the basic experience gained in the work of specialized secondary education in the 30 years since the founding of the PRC, defined the role and functions of specialized secondary education, designated a number of key schools and solved some improtant problems in the work. Specialized secondary education has advanced steadily alongside the constant improvement of educational standards. In 1985 the number of specialized secondary schools rose to 2,529 with an enrolment of 1,012,900 students. Compared with 1965, the increase in the number of schools and students was 190 percent and 158 percent respectively.

During this period, more than 100 short-cycle post-secondary vocational institutions were established by the local governement in various provinces, autonomous regions and municipalities directly under the Central Government to prepare the much needed personnel with appropriate vocational skills for the various localities. The Chinese Government has now placed these institutions in the field of technical vocation education. This paved the way for the development of technical and vocational education not only at the secondary level but also at the tertiary level.

In 1985, as a pilot programme, the Chinese Government started three technical colleges which enrol junior middle school graduates in 5-year courses. They, together with Jimei Nautical College at Xiamen, constitute a new type of vocational and technical education. This marked a step forward along the path to better articulate specialized secondary education with tertiary specialized education.

In this period, some progress was also reported in technical education for adults. Schools were run at different levels, with various standards and in various forms, such as radio and television colleges (specialized courses at different levels), correspondence schools, specialized courses for cadres, spare-time specialized schools for workers and staff, secondary radio and

television specialized schools, secondary specialized correspondence schools, specialized secondary schools for workers and staff, specialized secondary schools for cadres and specialized secondary schools for peasants. Thus a new dimension has been added to China's vocational and technical education.

B. The development of workers training schools and vocational middle schools has served to rectify to a certain extent the irrational structure of secondary education.

Beginning with 1980, the Chinese Government took vigorous measures to restore vocational middle schools. In May 1983 it adopted decisions on strengthning and reforming school education in the countryside and developing secondary technical and vocational education in urban areas. Thus, during the past few years vocational middle schools have developed fairly quickly as an integral part of the restructuring of the secondary education. In 1985 there were 8,070 vocational middle schools with a total enrolment of 2,295,700 students. Junior vocational middle schools have been established in some provinces to offer one-year training courses to junior middle school graduates.

In this period, workers training schools increased considerably. They numbered 3 465 with a total enrolment of 628,000 students in 1984. Their educational quality has been improved following a process of consolidation and accreditation.

C. Development of Short-term Vocational Training

Short-term vocational training classes for job-seekers have been run by the labour service companies in various localities under the administration of the state labour departments. Over the past few years more than one million people have received elementary vocational training each year. Besides, a network of short-term vocational training classes at higher levels for the training of middle-level and high-level skilled workers is being formed.

In May 1985 the Chinese Government convened a national educational conference at which it was pointed out that technical and vocational education was the weakest link in the current educational infrastructure of the country. It decided to take effective measures to promote a big advance of technical and vocational education. Specific measures are under study.

II. ESSENTIAL INFORMATION ON THE CURRENT STATUS OF TECHNICAL AND VOCATIONAL EDUCATION IN CHINA.

1. EDUCATIONAL SYSTEM AND LEVELS

The system of technical and vocational education in China could be devided into regular vocational school education and less formal forms of vocational training. School education is conducted at three levels, namely, tertiary, secondary and primary education. The tertiary level is mainly composed of the advanced technical and vocational colleges whose task is to train senior technicians or technologists and other professionals in applied fields. They enrol senior middle school graduates and those in-service employees having practical working experience and requiring further education for the need of their job. The duration of study will be at least two years. The secondary technical and vocational education embraces specialized secondary schools, workers training schools and senior vocational high schools whose mission is to train middle-level technicians and management personnel and skilled workers respectively. The secondary technical and vocational schools will mainly enrol junior middle school graduates. The duration of study will be three to four years for specialized secondary schools and three years for workers training schools and senior vocational high schools. Primary technical and vocational education at the junior middle school level is to provide junior employees who have had eight or nine years of basic schooling with elementary professional knowledge and working skill. The primary technical and vocational schools enrol primary school graduates for three to four years of study or enrol junior middle school graduates for one year of study. This type of school is to be run primarily in the contryside. Its objective is to enable students to acquire an educational level meeting the requirements of nine-year compulsory education to receive initial vocational training.

Besides formal school education, there are various forms of long and short-term vocational training dispensed in a variety of ways, constituting an important part of technical and vocational education in China. This type of education is being conducted by the extensive use of radio broadcasting, television and correspondence courses for people of various professions and trades at different educational levels.

China is making tremendous efforts to implement nine-year compulsory education and promote technical and vocational education. The two are interlinked with each other. Streaming for the vast number of teenage students generally began first at the end of junior middle school and then at the end of senior middle school. Part of junior middle school graduates would enter senior middle schools, while the others would receive technical and vocational education at the senior secondary stage. Part of senior middle school graduates enter institutions of higher learning and the others receive higher or post-secondary technical and vocational education. Those primary schools graduates who have received technical and vocational education during the junior middle school stage may seek employment or enter senior middle school. Those who have failed to be admitted to regular senior middle schools, colleges or universities or technical and vocational schools may get employment after receiving a short-term technical and vocational training. Priority will be given by institutions of higher learning or technical and vocational colleges to the enrolment of graduates of secondary technical and vocational schools and those in-service employees having practical working experience and studying courses geared to the needs of the job.

At present China makes the secondary level technical and vocational education the focus of its endeavour to develop technical and vocational education. The account given below will mainly deal with secondary technical and vocational education.

2. THE SYSTEM OF ADMINISTRATIVE CONTROL OR GOVERNANCE

To strengthen the supervision over educational work, the State Education Commission was established in June 1985 to replace the Ministry of Education. With broader terms of reference, the new Commission is empowered to formulate policy on education, draw up comprehensive plans for the overall development of education, coordinate the work of various departments on education, unify the planning for and guidance over the various local programmes of technical and vocational education undertaken by various departments, take charge of the work of overall planning, formulate and enforce important and comprehensive policies. The Commission will also undertake to prescriber school systems (including the dureation of study, articulation between different stages or

forms of education, etc.), set standards on school credentials and give guidance to various educational departments in formulating teaching plans, and reviewing and approving teaching programmes and materials for general education subjects and basic courses and draw up the principles, standards and methods of evaluating and assessing the quality of teaching. The specific administrative systems for various types of schools are as follows:

Higher technical and vocational education is mainly sponsored and administered by departments in various provinces, autonomous regions and municipalities directly under the Central Government. Elementary technical and vocational education is mainly sponsored and administered by departments in counties, towns and townships.

The administrative system of secondary technical and vocational education is as follows:

A. Specialized Secondary Schools

According to the line of control or relationship of subordination, specialized secondary schools are divided into two categories: (1) those affiliated to the central ministries and agencies under the State Council; and (2) those under the jurisdiction of local governments.

Specialized secondary schools affiliated to the various ministries and agencies of the State Council are either under the direct control of these ministries and agencies concerned or under the dual control of these ministries and agencies and corresponding departments in provincial governments (for brevity, here and hereafter, provincial governments cover also the governments of autonomous regions and municipalities under the direct jurisdiction of the State Council). The ministries and agencies concerned will bear the main responsibility for their administration. They may also be administered by the ministries and agencies concerned together with enterprises or organizations directly under them. The ministries and agencies concerned will mainly take charge of the following work for their respective affiliated schools: planning, educational programmes, enrolment plan, job assignment for graduates, replenishment and training of the teaching staff and employees, plans for staffing

and wage bills, financing capital construction, procurement and installation of materials and instruments and equipment, review and approval of plans for production, production practice of students and scientific research, arrangements for places of practice for students and the production and marketing of products from school-run factories or farms, formulation of teaching plans for specialized courses according to the provisions laid down by the State Education Commission, review and approval of teaching programmes and materials on specialized courses and appraisal of the quality of teaching.

Local specialized secondary schools under the provincial authorities are placed under the control of local governments but administered by the various governmental departments concerned. Specialized secondary schools geared to local needs are administered by the governmental departments in charge at the provincial prefectural or municipal levels. On matters of school administration, the governments at the provincial prefectural or municipal levels and their respective governmental departments have responsibilities and powers similar to those of the ministries and commissions.

The establishment and reorganization (merging or split) of specialized secondary schools or their cancellation require the approval of the central ministries or agencies or the provincial authorities concerned according to ties of affiliation or subordination with their superior organizations. Matters about this should be reported to the State Education Commission for the record.

B. Workers Training Schools

Workers training schools are to be administered by the Ministry of Labour and Personnel, subject to the unified guidance and coordination of the State Education Commission. Local workers training schools including those run by enterprises are directly administered by the governmental departments concerned. Workers training schools run by various ministries and commissions of the State Council (including those run by ministry-affiliated enterprises) are directly administered by ministries or commissions or by the subordinate organizations and those governmental departments concerned at the provincial, autonomous regional or municipal levels on behalf of these ministries or commissions. The Ministry of Labour and Personnel gives compre-

hensive guidance and coordinates the administration over these schools with the assistance of the local labour and personnel departments.

C. Senior Middle Vocational Schools

Senior middle vocational schools are now mainly administered by the educational administrative departments at the prefectural (or municipal) and county level. To facilitate overall planning and overcome difficulties arising from shortage of funds and inadequate facilities, the people's governments at many prefectures(or cities) and counties have each set up a leading group to coordinate work with the participation of local government departments of education, labour, finance and planning. Many senior middle vocational schools are jointly run by educational departments and enterprises. These enterprises or those departments in charge of them are invited to take part in the school administration.

3. SOURCES OF FINANCING

Funds for higher vocational specialized schools come from state appropriations for institutions of higher education. Specialized secondary schools are run by the central or local governmental departments. Their funds for capital construction and current expenses come from the budgetory allocations of the sponsoring organizations.

Methods of administering funds for workers training schools are as follows:

Funds for workers training schools run by sponsoring departments and labour departments (including those schools run by enterprises on behalf of the sponsoring departments) are covered by "budgetory allocations" of these departments. Funds for schools run by specialized companies are borne by "extra-operating expenses--expenses of workers training schools". Funds needed by sponsoring departments and operating departments for the construction, renovation and expansion of workers training schools (including investment

in building construction and purchase of teaching instruments and apparatus, furniture and tools, etc.) are included in capital construction programmes and covered by investements in this category according to established procedure.

There is no unified provision for funding senior middle vocational schools. Generally speaking, their funds come from the following sources: 1. part of the operating expenses originally allocated by the government to senior middle schools; 2. government subsidies to vocational education; 3. funds for running schools allocated by enterprises; 4. traing fees paid by the employing departments; 5. revenues from products and other undertakings run by the school; 6. a small amount of tuition; and 7. money raised from other sources.

Revenues from school-run workshops and farms and enterprises are generally exempted from taxation. Disposal of the revenues is divided as follows: part for delivery to the sponsoring departments at a higher level; part to be used for the purchase of equipment and expansion of school buidings and the remaining part to be used as welfare fund for students, teachers and other staff and workers.

4. TEACHING PROGRAMMES

A. Educational Programmes Offered

Specialized secondary schools offer educational programmes (specialities) in 12 broad fields, namely, engineering, agriculture, forestry, medicine, pedagogy, finance and economics, physical education, art, liberal arts, science, technico-economics and management and political science and law. Engineering consists of 15 fields of study, namely, geology; mining; power enginnering; metallurgy; machine building electrical machinery and electrical appliances; radio technique; chemical engineering; cereals and foodstuff processing, light industries; surveying and mapping; hydrology and meteorology; building construction and civil engineering; transportation and communication, and environmental protection. At present more than 440 specialized courses are offered.

Workers training schools mainly offer specialized courses for training skilled workers in industry. They are generally divided according to the division of labour in the working process in the course of production. For instance, among skilled workers engaged in machine work processes, there are lathe operator, miller, planer, grinder, fitter, founder, riveter and hammersmith, etc.. More than 450 specialized courses in the industrial field are offered.

Apart from offering courses comparable to those offered in the specialized secondary schools and workers training schools, the senior middle vocational schools also offer courses in the field of the tertiary industry, particularly courses related to the service industries and those courses not available in the aforesaid two types of schools. Preliminary statistics show that more than 450 specialized courses are offered in the senior middle vocational schools.

Educational programmes offered by individual specialized secondary school should conform to a unified catalogue of specialities prepared and issued by appropriate state organs. No unified catalogue of specialities (occupations) for use in workers training schools and senior middle vocational schools has been prepared.

B. Teaching Plan

The secondary technical and vocational schools practise a system of training qualified personnel according to the needs of different specialities or occupations and organize instructions and practical training according to teaching plans for certain specialities (occupations) in order to see that graduates are qualified for the job. The schools adopt a school year system. Each school year is divided into two semesters. The new school year begins on September 1. Except for holidays and examinations, the teaching plan in the main consists of two parts, namely theoretical and practical studies. The content of theoretical studies consists of courses in politics, general education subjects, general technical subjects and special subjects. The hours allocated to laboratory work, although listed under practicals, are to be counted together with the hours of theoretical studies in related courses.

Practice covers practical training, teaching practice in school-run workshops or farms, production practice in factories and pre-graduation practice conducted in enterprises.

These various forms of practice may be conducted separately or properly integrated according to the specific features of the specialities (occupations) concerned. Specialized secondary schools also designate such practical exercises as course projects, graduation (diploma) project or thesis as part of the curricula.

a. Teaching Schedule

Specialized secondary schools offer a four-year programme of studies. Students will spend altogether 208 weeks at school (including holidays and examinations). The entire period of teaching will be 150 weeks. Theoretical studies for students of science, engineering, agriculture and medicine will take 100 to 110 weeks, or two thirds of the total number of weeks of studies. Practical studies including various practices, course projects, graduation project or thesis but excluding laboratory work, will take 40 to 50 weeks, or one third of the total number of weeks of studies. Theoretical studies for students of applied liberal arts, finance and economics and political science and law will be limited to 130 weeks while practical studies will take up at least 20 weeks. The number of teaching hours each week will range from 24 to 30 periods (one period is usually 50 minutes long). Generally speaking, the number of teaching hours will be the biggest for students of lower grade and will be reduced year by year. The total number of hours of theoretical studies of science, engineering, agriculture and medicine (including hours for laboratory work, doing exercises and elective courses) is roughly limited to 2,800 to 3,200 periods while that of practical studies between 1,920 and 2,400 periods. The total number of hours of theoretical studies of courses in applied liberal arts, finance and economics, and political science and law is between 3,000 and 3,400 periods while that of practical studies is a little more than 960 periods. In general, the number of hours for laboratory work is generally no less than 20 percent of that for the teaching of related courses. Therefore, the ratio of the number of hours for practical studies of various courses in various branches of learning is in fact larger than the above-mentioned ratio.

Workers training schools adopt a three-year programme of studies. Students will spend altogether 156 weeks at school (including the vacations and examinations). The entire period of teaching will be 120 weeks of which both theoretical and practical studies account for about 50 percent each. For example, the theoretical and practical studies of courses of various occupations in underground mining at a coal mining workers training school take 60 weeks each. Theoretical and practical studies of courses of various trades in building construction at a building construction workers training school take 62 weeks and 58 weeks respectively. The schedule prepared by the Ministry of Labour and Personnel provides that the theoretical studies of courses of the commonest trades in machine work at the workers training schools throughout China account for 47.4 percent of the total number of weeks of studies while practical studies take 52.6 percent of the total number of weeks of studies. But the percentage of the time for practical studies of some occupations is generally larger.

Senior middle vocational schools offer a three-year programme studies. Students will spend altogether 156 weeks at schools. The entire period of teaching will be 120 weeks. The number of weeks for theoretical studies of courses in industrial occupations ranges from 90 to 100 while that for practice in production ranges from 20 to 30 weeks. The number of weeks for theoretical studies of courses in applied liberal arts ranges from 105 to 110 weeks while that for practice in production ranges from 10 to 15 weeks.

b. Curricula

Specialized secondary schools require their students to have the necessary preparation in gneral education and on this basis impart specialized technical education. Four kinds of courses are offered in these schools: (1) politics; (2) general education subjects, namely: the Chinese language, mathematics, physics, chemistry, one foreign language and physical culture; (3) general technical subjects, differentiated in accordance with the specific requirements of the speciality; (4) specialized courses. For engineering or technological specialities, the specialized courses offered usually consist of the following three kinds: (1) courses mainly dealing with technological processes and equipement; (2) courses in basic theory; and (3) courses in the organization of production and management.

Workers training schools require the mastery of basic knowledge necessary for learning the skills of the job, including the study of theory and the acquisition of practical skills corresponding to those of middle-level skilled workers. Courses in politics, general knowledge, technical theory and practice in production are offered. Subjects of study and specific requirements are different in accordance with the needs of specific occupations.

Senior middle vocational schools require the study of related basic general knowledge, theory and technical skills corresponding to those of junior technicians in accordance with the requirement of the speciality. Their curricula include politics, general education, specialized courses and practice. Chinese, mathematics and physical education are included in the general education courses which are offered by various types of schools. Other courses such as physics, chemistry, biology, foreign languages, geography, history, music and fine arts are offered according to the requirement of speciality (or occupation).

c. Formulation of Teaching Plans and Procedure for Review and Approval.

The State Education Commission is responsible for the promulgation of the principles of formulating teaching plans and other related rules and regulations. In accordance with the principles promulgated by the State Education Commission and the typical teaching plans approved by the central ministries concerned, the specialized secondary schools formulate operational teaching plans and submit them to their respective superior educational departments at the provincial level or to the central ministries and agencies for approval. The operational teaching plans formulated by local schools shall be submitted to the central ministries concerned for the record.

The teaching plans for various specialities of workers training schools formulated by various central ministries in charge are to be issued to the schools concerned for implementation and reported to the Ministry of Labour and Personnel for the record.

The central ministries under the State Council of departments of provincial governments shall be responsible for organizing the work of formulating the teaching plans for various specialized courses of the vocational senior middle

schools as well as for the review and approval of these teaching plans and their implementation. They shall be reported to the State Education Commission for the record.

C. Teaching Materials

Over the past few years, in cooperation with the local governments, the State Education Commission, the Ministry of Labour and Personnel and various ministries and commissions of the State Council have organized the preparation of teaching materials for use in secondary technical and vocational education. 826 titles of textbooks were published for use in especialized secondary schools and more than 200 titles of textbooks had been published or are soon to be published for use in workers training schools. According to incomplete statistics, 353 titles of vocational school texts for a number of specialized courses had been published. They included 93 titles of books on industry, 96 titles on agriculture and forestry, 23 titles on culture and education, 54 titles on finance and economics, 18 titles on industrial and fine arts and 69 titles on tourism and service trades.

5. INTEGRATION OF EDUCATION WITH PRODUCTIVE LABOUR

The integration of education with productive labour is an important policy and principle of education in New China. It finds a mode conspicuous expression in technical and vocational education.

The significance of implementing the policy of integrating education with productive labour is to train a new generation of people who are able to apply theory to practice, would develop the person morally, intellectually and physically and work conscientiously and serve the people wholeheartedly. The old educational system that was divorced from reality and labour could not meet the need for training qualified personnel for socialist construction. Only by closely combining education with productive labour can education catch up with the development of science and technology and social production, the content of teaching be constantly renewed, the quality of education be improved, the role of education in bringing about a speedy transformation of science and technology into productive force be enhanced.

Following are the three main aspects of implementing the policy of combining education with productive labour in technical and vocational education:

A. School-run enterprises (farms, hospitals and commercial shops, etc.) that are closely connected with specialities (occupations) in the service of teaching and learning.

Their main task is to undertake teaching practice whose principal aim is to enable students to receive an all-round training in basic skills as prescribed in the teaching plans and at the same time to carry out production on a small scale or conduct scientific experiments. Students should first take part in production in these workshops or farms. When they have acquired basic skills they will have to work at outside enterprises of farms so as to upgrade their skills in operation and production.

Their performance in labour helps them acquire operating skills and understand the process of production and society and raise their socialist consciousness.

B. Schools and relevant enterprises and undertakings establish multiple links through many channels (such as the establishment of fixed ties, joint efforts to run schools and personnel training on behalf of organization or enterprises).

In this way the schools and the enterprises or organization can exchange information and give support and assistance to each other. The latter provide the schools with places for productive practice required by the courses of study and send experienced engineers and technicians to give lectures at these schools. They can also provide some instruments and equipment, funds and other material support. On the other hand, teachers and students may engage in productive practice, graduation projects and help solve practical problems in production at these enterprises or organizations. They may also arrange or revise personnel training programmes according to the need of these organizations. This serves the purpose of close coordination between teaching and production and of mutual assistance for common progress.

C. The operation of two parallel educational systems-full-time schools and part-work and part-study schools.

There is an urgent need for large numbers of existing staff and workers and cadres to renew their knowledge and improve their skills and technical know-how quickly. To rely on full-time schools alone cannot meet this demand. That was why a long time ago Comrade Liu Shaoqi advocated the introduction of two educational systems. The part-work and part-study schools are particularly suitable for the continuing education of workers and staff and cadres. This work-study system is an effective measure to effect the integration of education with productive labour. Without excessive demands on the financial resources of the state, it has greatly promoted the advance of vocational and technical education. It conforms to the national conditions and is not beyond the means of our country and provides an effective way to train all types of technical personnel speedily and efficiently.

To implement the policy of combination of education with productive labour requires the correct handling of the relationship between education and labour. The two cannot be put against one another, nor can one be attended to the neglect of the other. Some deviations had taken place along the path of advance in China. Under the influence of the "Left" guiding thought prevailing during the "great leap forward" period, the phenomenon of "labour substituting study", with an abnormal emphasis on manual labour and concomitant neglect of study, appreared and thus the quality of teaching was lowered. This deviations was, in the main, set right after a process of readjustment in 1962. But when the cultural revolution started, all vocational and workers training schools suspended operation because of the interference of the ultra-left line. In 1978 the Central Committee of the Comunist Party of China proposed that "To train the qualified personnel needed for socialist construction, we must study conscientiously the question of how to implement the policy of combining education with productive labour still better under new conditions." It was not until then that this policy was correctly understood and recognized. Both in content and method, new progress has been made in the implementation of this policy. Since then the vocational and technical education has embarked upon a path of sound development.

6. MORAL AND PHYSICAL EDUCATION

China persists in an educational policy to train qualified personnel who are able to attain an all round development morally, intellectually and physically. To strenghthen moral education, political science is chosen as a required course in all technical and vocational schools where teachers in charge of classes, and functionaries of the Communist Party and the Communist Youth League are responsible for strengthening the ideological and political education of the students. Lively ideological and political education of students is carried out through the study of the political course and reports on the current situation at home and abroad, through participation in the activities of the branches of the Communist Party and the Communist Youth League and productive labour, as well as through visits and participation in social surveys. The main content of such education is: the education of patriotism and internationalism, adherence to the four cardinal principles, namely, the leadership of the Communist Party, the socialist road, the people's democratic dictatorship, and Marxism-Leninism and Mao Zedong Thought; education of the Marxist world outlook and the outlook on life, and the education of social ethics and organizational discipline. Emphasis is also put on educating students with professional ethics in the light of the chracteristics of technical and vocational education. This ideological education enables students to establish a correct world outlook and outlook on life step by step, to become qualified personnel who love the socialist fatherland and adhere to the four cardinal principles with lofty ideals, moral integrity, cultural attainment and a sense of discipline as well as qualified successors to the cause of socialism. In this way schools will become important positions for building a socialist spiritual civilization. Every teacher is equired to educate the person as well as impart knowledge, be exemplary in behavior, understand and pay attention to the students' ideology and combine teaching with ideological and political education. In the course of studying politics, it is necessary to bring democracy into full play and allow and encourage everybody to express views, particularly differences, and let the students educate themselves.

With a view to keeping every student in good health, physical education is listed as a required course by all schools. Students are required to do physical exercises for at least one hour each day. Periodic track and field meetings are held every year together with ball games. A series of measures of health care have been adopted for teachers and students.

7. ENROLMENT, JOB ASSIGNMENT ON GRADUATION, PAY SCALES

The secondary technical and vocational schools practice a unified enrolment or admission system within a certain geographical area. Eligible students enter their names for entrance examination whose questions are set under the unified arrangement of a certain educational set-up. The best of the examinees are selected according to the criteria set for individual specialities (occupation) after an all-round appraisal of their moral, intellectual and physical standards. Trans-provincial recruitment may be conducted for those specialities which are orientated to the needs of the whole country or several large regions. Rules concerning the enrolment system provide that preferential consideration shall be given to the enrolment of minoritty students, students from Taiwan Province and overseas returned Chinese students. Attention shall be paid to the recruitment of female students. Enrolment of students and job assignment for graduates of the specialized secondary schools and workers training schools are listed in the state plan. Their graduates are assigned jobs by the personnel or administrative departments in charge. Since the enrolment of students of vocational schools is not incorporated in the state plan, their graduates may be employed on the recommendation of the school administration and after the check and an all-round appraisal of moral, intellectual and physical standards by the personnel departments of the employing organizations. These graduates may also choose freely their own jobs. Graduates of the secondary technical and vocational schools will undergo a probation during the initial period (usually one year) of employment. Employees under probation will be paid temporary wages and they will be given fixed wages according to the state wage scales after their grade has been rated upon the expiration of the probation.

8 TEACHERS

The number of teachers has increased steadily and their quality improved with the impressive development of workers training and vocational schools. The number of full-time teachers at specialized secondary schools rose from 98 000 in 1981 to 128 000 in 1985. Of the total, the number of teachers who had graduated from colleges and universities rose from 63.3 percent in 1981 to 73.3 percent in 1985. The ratio between full-time teachers and students was 1:8 .

The number of full-time teachers at vocational middle schools rose from 28,900 in 1981 to 140,000 in 1985. The ratio between teachers and students was 1 : 16 .

Although the contingents of teachers have been upgraded both in number and quality in the past few years, there has been a shortage of science and languages teachers at specialized secondary and workers training schools. It is also necessary to raise the quality of teachers of specialized courses. There is a serious shortage of teachers of specialized courses at the vocational middle schools. And the problem of low teaching quality is also very serious. This situation is far from being adequate to meet the need for the development of technical and vocational education. It is necessary to take effective measures to solve the problem of training and upgrading teachers.

a. Teachers'Qualifications and Requirements

Teachers of technical and vocational schools must espouse that leadership of the Communist Party of China, love the socialist fatherland, dedicate their efforts to the undertaking of education, have moral integrity, set an example for others, command a basic knowledge of pedagogy and psychology and teaching methods, are in good health and can endure normal but hard work.

Theachers of general education subjects and special courses at primary technical and vocational schools should be junior college graduates or have equivalent qualifications. Instructors supervising the learning of practical skills may be well experienced middle-level skilled workers or competent artisans.

Teachers of general education courses, basic courses and special courses at secondary technical and vocational schools should generally be university graduates or have equivalent qualifications. Teachers specialized in certain vocational skills may be junior college graduates. Instructors supervising the learning of practical skills should generally by graduates of specialized secondary or vocational schools and have a fairly rich practical experience.

For the time being teachers of technical and vocational education colleges, vocational universities and technical colleges should at least be college graduates and their qualifications should be gradually raised in the years to come.

A system of certifying the qualifications of teachers has yet to be established in China. Beginning from 1986, a system of recruitment of teachers will be introduced in all types of schools at all levels throughout China. With the introduction of this system, the system of certification of teachers will be introduced step by step so as to improve the quality of teaching.

b. Sources of Replenishment of Teachers

Teachers of technical and vocational schools have mainly come from the institutions of higher learning whose graduates have been asigned jobs as teachers of these schools.

In recent years a number of technical and vocational teacher's colleges or training centers have been set up by some provincial authorities. These colleges and centers shoulder the responsibility for preparing teachers in serious or extreme shortage as well as teachers for these specialities with a massive scale of training. At the same time they should become centers for scientific and pedagogical research of technical and vocational education and for the exchange of information.

The demand for teachers of general education courses at various technical and vocational schools is to be met by the provincial authorities in charge. The education departments concerned make plans for recruitment of these teachers. The latter either come from teachers colleges or are selected from among the graduates of comprehensive universities who have been assigned teaching jobs by the planning and personnel departments at the request of the education department.

Teachers of teachnical subjects as well as instructors supervising the learning of practical skills are to be recruited or provided by school-running departments. The education, planning and personnel departments of the various ministries and commissions concerned, or of the provincial authorities concerned

make overall planning for enrolment of students and job assignment to graduates of the respective institutions of higher learning under their jurisdiction. The State Education Commission is responsible for trying to meet the demand for teachers which cannot be satisfied without recourse to trans-departmental and trans-regional recruitment by making special arrangements for the training of teachers on behalf of these organizations.

c. In-service Training and Upgrading of Teachers

The task of giving further training to teachers of general education courses at the technical and vocational schools is to be undertaken by teachers colleges, institutes of education (for in-service training of teachers) and comprehensive universities as well as other qualified institutions of higher learning.

The technical and vocational teachers colleges, training centers and the institutes of higher education concerned as well as scientific research institutes, enterprises and undertakings are responsible for the task of providing refresher courses and technical training for teachers of special courses and basic special courses and instructores of practical training.

The normal and teachers colleges and universities, the colleges of education and other comprehensive universities with the necessary resources will bear the responsibility for upgrading these teachers'qualifications in pedagogy, teaching methods and general education. The tasks of training undertaken by these colleges and institutes will be assigned by their superior departments in charge.

To prepare the leading members of the teaching staff, key institutes of higher learning throughout China began admitting as from 1983 teachers of specialized secondary schools for further training. The eligible trainees are mainly drawn from the pool of promising young teachers. They will receive training from 6-month up to one year, mainly to upgrade their teaching ability by helping them grasp all the constituent parts of a given course, including lessons or lectures, laboratory work, practical training, etc.

The prerequisite qualifications for such trainees are as follows :

They must be college graduates in their field of study or have equivalent qualifications, with two years of teaching experience or more. Besides, they should have all the necessary preparation for further training, have a good record of work and are in good health.

To bring about a quick change in the low qualifications of teachers prevailing at the secondary schools, some institutes of higher learning in China began from 1984 to open classes for training teachers of secondary schools. The enrolees were in-service teachers aged under 40 and had a record of over five working years. Those enrolled in degree courses should be junior college graduates while those enrolled in short-cycle courses must be graduates of senior high schools or specialized secondary schools. They were admitted to first degree or short-cycle courses lasting two years, with the content of training geared to colleges with courses suitable for their jobs for two years of further education after passing the entrance examinations. Diplomas or certificates will be given upon their graduation.

The State Education Commission will be in charge of the organization of these two projects of further education which will be listed in the state enrolment plan.

9. ADULT EDUCATION

Adult education in China refers mainly to post-employment education whose clientele are adult working people including cadres, workers, peasants and other citizens as well as job-seeking youth. Adult education is also divided into primary (including literacy classes), secondary and higher educational stages. It is charged with the double task of popularizing and raising the level of education. It is characterized by its diverse forms of running schools and of teaching and learning. They include the education of illiterates, cadres, workers and staff and peasants. And the methods of teaching and learning ranges from spare-time studies, release from work for study, correspondance courses, radio broadcasting and television courses to the

acquirement of qualifications through examinations administered for self-taught students. According to end of 1984 statistics, the number of students at various schools for workers and staff and peasants at all levels totalled 16,693,000. They included 1,384,000 students at higher educational institutions for workers an peasants, 5,987,000 students at secondary schools and 9,322,000 primary school students including 6,088,000 persons attending literacy classes.

A. Literacy Education

It is estimated that eighty percent of the population in China were illiterate at the time of the founding of the People's Republic of China in 1949. From 1949 to 1948, a total of 154,171,000 persons attended literacy classes and were able to read and write as a result of the anti-illiteracy drive.

Anti-illiteracy directives and regulations have been issued on many occasions since the founding of the PRC. Anti-illiteracy organizations have been set up and their leadership strengthened. Specific rules and regulations have been prescribed with respect to the criteria, population served, basic requirements and methods of the anti-illiteracy work.

B. Education of Cadres

Since 1979 China has adopted more effective measures to strengthen the education of cadres and their continuing education. Periodic training of cadres on a rotation basis has been conducted through various cadres' schools, specialized secondary schools, institution of higher learning and various types of training classes. Rules and regulations have been prescribed by the state concerning the establishment of special courses and training classes for cadres by the institutions of higher learning and specialized secondary schools. Principles have also been prescribed by the state about the nature, requirements, standards and the procedure for review and approval of the establishment of the institutes of administration and management for cadres by provincial authorities, the central ministries and agencies under the State Council. The main task of cadres'educational work is to upgrade

all the cadres' ability to grasp the theory of Marxism, to upgrade their professional knowledge and scientific and cultural level as well as their administrative ability so that they will become qualified working personnel of the Party and the state capable of adhering to the socialist road and having the necessary professional knowledge.

C. Education of Workers and Staff

The education of workers and staff is aimed at upgrading their political, cultural and technical level and their ability to administer the state. Its task is to launch universal education among workers and employees and train cadres. The full-time schools run by the state are an important place for training technical and administrative cadres. But to fulfil this task, reliance on the full-time schools alone is very inadequate. The industrial and mining enterprises will have to share a considerable part of responsibility and, quantitively speaking, an even heavier responsibility than full-time schools have to. In the near future, the taks of education of workers and staff is to conduct general training of the leading cadres, administrative and technical personnel on a rotation basis. It is envisaged that by such efforts skilled workers of the lower grades will raise their ability and become middle-level skilled workers and that middle-level skilled workers will become skilled workers of the higher grades. According to the need of developing circumstances, it is also necessary to strive to improve the higher education for workers and staff with a view to raising and training a contingent of highly qualified technical personnel among the workers and staff as an important supplementary source of technical manpower of the enterprises.

D. Peasant Education

Peasant education is undertaken by various cultural, technical and educational facilities which have been set up by the community and grass-roots organizations in the countryside. It is an educational undertaking to raise the peasants' political, cultural and scientific and technical level, develop agricultural production and build up a socialist material and spiritual civilization.

Since 1949 China's peasant education has advanced greatly. While the anti-illiteracy drive was going on, from 1949 to 1966, 5,718,000 persons graduated from primary schools and 405,000 persons graduated from junior middle schools. From 1979 to 1981, 2,357,000 persons graduated from primary schools and 297,000 persons graduated from junior middle schools. An ever increasing number of peasants has been studying techniques with the introduction of the production responsibility system in the countryside. In 1984, peasants graduated from primary schools, 208 00 peasants from junior middle schools, 17 000 peasants from senior middle schools, 9 000 peasants from specialized secondary schools and 359 peasants from junior colleges. Enthusiasm to run schools has been high among the people of various occupations such as agriculture, forestry, animal husbandry, side-line occupations, fishery and industry.

A craving for the study of science and its application has emerged among the masses of peasants.

III. PROBLEMS AND OUTLOOK

In China's economic construction, there is a crying need for middle-level and junior technicians, managers and skilled workers who have received fine technical and vocational education as well as urban and rural labourers who have undergone good vocational training. Without such a strong professional and semi-professional manpower and labour force, it is impossible to employ advanced science, technology and equipment to generate practical social productive forces. However, it is precisely the technical and vocational education that remains the weakest link in China's education infrastructure today. Apart from the fact that the number of qualified manpower and their quality cannot meet social demands, the proportion between different levels of skilled manpower in major fields and sub-fields of training are far from being rational. This is one of the problems.

The economic and social development of the country calls for a rational proportion in the demand for qualified personnel at various levels and in different fields. Generally speaking, the proportionate structure of the senior, middle-level and junior professionals and the skilled workers should resemble the shape of a pyramid. Only in this way can the well-trained personnel be in their proper places.

A 1984 survey showed that in the enterprises and institutions affiliated to 72 ministries and bureaux directly under the State Council, highly qualified personnel at and above the level of assistant engineers (or people with comparable qualifications) numbered 3.3 million, while techicians (or people with comparable qualifications) and other middle-level technical personnel numbered only 2.19 million. The ratio between senior and middle-level technical personnel was 1 to 0.67, a glaring case of disproportion. As a result, in many enterprises and undertakings, an engineer has to do the work of a technician, thus wasting the talents of the engineer.

Such imbalances were also found in the composition of skilled workers. The statistical returns of 1984 indicated that of the 40 million skilled

workers in the state-owned enterprises and undertakings, junior workers of the third grade and below accounted for 71 percent, while highly skilled workers of the seventh and eighth grades accounted for a meagre 2.3 percent. Under such a situation, many factories and mines had to assign junior workers the jobs which only middle-level and senior workers are qualified to do. As there is a shortage of skilled workers, some imported up-to-date machines and equipement fail to operate properly and grave industrial accidents occur frequently. The lack of a contingent of well-trained skilled workers also constitutes one of the root causes for the low quality of Chinese products, the high consumption of energy and materials and the poor economic results.

As regards the quantitative dimension of the educational undertaking, technical and vocational education remains to be the weak link. In 1985, a total of 1 68 million students were studying in the full-time institutions of higher learning as against 1 013 million in the specialized secondary schools and 750 000 in the workers training schools. Technical and vocational education in the country-side is even more inadequate, falling far short of the demands of the enterprises and various trades in the rural areas for specialized personnel. The restructuring of the economic system in the countryside is changing the rural system of production from a lopsided crop-planting pattern to a comprehensive system of diversified economy. To develop town and township enterprises it is essential to revitalize the rural economy. During the Seventh Five-Year Plan period, efforts will be made to speed up the technological transformation of agriculture, and intensify the development of technical and vocational education in the countryside. But in 1985, all senior middle agricultural schools in China only had an enrolment of 1 185 000 students. This means there was 0.15 student for every 100 villagers in China's vast countryside inhabited by 800 million people.

For many years, about one third of China's 2 529 specialized secondary schools were engineering schools or offered engineering courses. The 3,400 odd workers training schools in the country were mostly engineering schools. Until the recent past, economic management had been neglected for long. From 1957 to 1958, the number of specialized secondary schools catering to the needs of engineering rose from 284 to 804 while that of financial and economic schools was down to 29 from 49. Concomitantly, the number of engineering

students went up to 562,000 from 259,000 while that of students at schools of finance and economics dropped from 32,000 to 20,000. In 1985, there were 439 schools of finance and economics with a total enrolment of 174,000 students, but the numbers are still too small to satisfy the needs for the fast development of the planned commodity economy. In particular, there is an acute shortage of accountants, statisticians, market monitoring and supervising personnel and bank and insurance company staff.

However, the shortage of political science and law workers is even more acute. As the establishment of a legal system did not receive due attention during a long period after the founding of New China, only a few schools of political science and law were set up in the 30 years after 1949. It was not until 1979 did the secondary education on political science and law begin to develop fairly rapidly. The number of political science and law schools reached 123 in 1985, enrolling 48.000 students. But they are still unable to meet social demands and secondary education in this field will have to be developed. In addition, China stands in need of a large number of secretaries conversant with economics and law, archivists and librarians in order to raise work efficiency. All this demonstrates the urgent need for developing education in applied liberal arts. At present, the specialized secondary schools are financed by the departments ready to employ their graduates. But the case with schools of applied liberal arts is different. Most employing departments are reluctant to fund these schools, while the educational departments are short of funds.

For a long time, in China, commodity economy has been underdeveloped, labour resources abundant and the technology set-up outdated, most industrial departments and plants, except for a few technology-intensive industrial establishments, made no proper requirements for the pre-job moral, cultural and technical standards of their recruits. Consequently, the enterprises are overstaffed with unqualified employees and many key technical posts are occupied by people who have received no technical or vocational education or training. This state of affairs has become a major hindrance to China's economic growth and should be dealt with immediately. It is necessary not only to do away with the outmoded and conventional concept of employment, which is associated with small scale production, but also to speedily reform the prevailing labour and employment system. This is the second problem.

In 1981, 8.2 million new employees entered the labour force, registering a net increase of 4.96 million, discounting the natural attrition of the employees, and a growth rate of 4.5 percent. But the average labour productivity in the state-owned enterprises that year declined by 1.8 percent as against 1980. In one province, the number of workers and staff incresed by 11.4 percent while industrial labour productivity was down by 10.7 percent. Among the numerous factors accountable for the decline, we cannot single out as a major cause the lack of necessary training and low quality on the part of large numbers of newly-employed young people. Therefore, it is imperative to substitute the past practice of assigning jobs to people before they undergo training with the principle of training people before thay are given jobs, and to perfect the on-the-job training system. Meanwhile, the method of unified enrolment and job assignment used in the technical colleges, specialized secondary schools and workers training schools should be discarded, while the principle of recruiting the best of the graduates should be gradually applied so as to ensure the quality of the new employees.

The most outstanding impediment to the development of secondary technical and vocational education is the serious shortage of teachers, particularly those teaching specialized courses in vocational middle schools. This is the third problem.

In the Seventh Five-Year Plan period from 1986 to 1990, China will exert major efforts to build up a technical and vocational education and training system which will be rational in structure, well-articulated with general education, cover all levels and offer courses on all trades.

The streaming of the Chinese youth should in general start at their middle school period: some of them will enter regular senior middle schools and the rest will receive technical and vocational education at the senior middle schools; some of the senior middle school graduates will continue their studies in universities and the others will be enrolled in post-secondary technical and vocational educational institutions. A primary school graduate who has received technical or vocational education at junior middle school level may either be employed or go on studying at a higher school. Students who have failed to enter regular senior middle schools, universities and

technical and vocational schools may be employed after a short-term training. We should exploit to the full the potentials of the existing specialized secondary schools and workers training schools to enroll more students and will convert a number of regular senior middle schools into vocational schools in a planned way or supplement the regular schools with vocational courses.

At the same time, new technical and vocational schools will be built With these measures, we will try to make student enrolment in technical and vocational schools at senior middle school level equal to that of regular senior middle schools in most areas around 1990 so as to put an end to the present irrational structure of the secondary education.

In 1990, the number of China's junior middle school graduates is expected to reach 14 million. Suppose 48 percent of them will go on to higher schools (the 1984 figure was 45 percent), this means that 6.7 million junior middle school leavers will receive education at the senior middle school level. If the ratio between the two categories of students is set at 1 : 1 as required, about 3.4 million junior middle school graduates will receive technical and vocational education at the senior middle school level. However, the combined enrolment capacity of the specialized secondary schools, workers training schools and senior middle vocational schools stood at only 1.7 million in 1984, so it will be impossible to meet the growing demands by merely establishing new schools of the regular type. Hence, it is necessary to increase short-term vocational training courses. Only by combining regular education with short-term training courses and expanding regular educational esta blishments can we fulfill the task of providing adequate technical and vocational education in a country of one billion people.

ANNEXES

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ANNEX I

SURVEY

Name of the State:	The People's Republic of China
Geographical Location:	Asia
Area:	9.600.000 Square Kilometers
Population:	1.034.750.000 persons (1984 Census)
Working Population:	475.970.000 persons
Gross National Product:	1.300.4 Billion Yuan (1984)
Per Capita Income:	548 Yuan
Currency:	Yuan
The Rate Between Yuan And The U.S. Dollar:	One U.S. Dollar Equals 2.33 Yuan (1984)

Gross National Product And The Composition of the Working Population (1984)

Industrial Composition	Percentage Share of GNP	Percentage Share of Working Population
Agriculture	28.9	68.4
Industry	54.1	13.3
Building	9.0	3.9
Transportation	2.8	2.3
Commerce	5.2	4.9
Government and Others		7.2

Total Amount of National Revenue and Expenditure (1984)

Total Revenue:	146.5 Billion Yuan
Total Expenditure:	151.5 Billion Yuan
Balance of Revenue and Expenditure:	5 Billion Yuan in Deficit

National revenu includes revenues from enterprises, taxes, loans and other items.

National expenditure includes appropriation of funds for capital construction, funds for renovation of enterprises and trial-manufacture of new products, additional allocation of circulating funds to enterprises, funds for culture, education, science and public health, expenditure on national defence and preparation for war and administrative costs.

Year	Expenditure on Culture, Education, Science and Public Health	Percentage Share of Total Expenditure
1980	15.63 Billion Yuan	12.9
1981	17.14 Billion Yuan	15.4
1982	19.70 Billion Yuan	17.1
1983	22.35 Billion Yuan	17.3
1984	26.34 Billion Yuan	17.4

ANNEX II

DECISION OF THE CENTRAL COMMITTEE OF THE COMMUNIST PARTY OF CHINA ON THE REFORM OF THE EDUCATIONAL STRUCTURE

(May 27, 1985)

FOREIGN LANGUAGES PRESS BEIJING

I. THE FUNDAMENTAL AIM OF RESTRUCTURING EDUCATION IS TO IMPROVE THE QUALITY OF THE NATION AND PRODUCE AS MANY SKILLED PEOPLE AS POSSIBLE

The decision made by the Twelfth Central Committee of the Chinese Communist Party at its Third Plenary Session on the reform of the economic structure has broadened prospects for the vigorous development of China's productive forces and of its socialist material and spiritual civilization. A vital factor for the success of our cause lies in the availability of skilled people, which requires the vigorous development of education as economic growth allows.

Education must serve socialist construction, which in turn must rely on education. Our massive socialist modernization programme requires us not only to give full rein to the skilled people now available and to further enhance their capabilities, but also to train, on a large scale, people with new types of skills who are dedicated to the socialist cause and to the nation's economic and social progress into the 1990s and the early years of the next century — a task which we cannot accomplish without greatly increasing the entire Party's awareness of the importance of education so as to gear it to the needs of modernization, the world and the future. We need to train millions upon millions of workers in industry, agriculture, commerce and other fields, who are well-educated, technically skilled and professionally competent. We also need to train tens of millions of factory directors, managers, engineers, agron-

omists, economic experts, accountants, statisticians and other economic and technological personnel who are equipped with modern knowledge of science, technology and economic management and imbued with a pioneering spirit. And we need to train tens of millions of educators, scientists, medical workers, theoreticians, cultural workers, journalists, editors, publishers, workers in the fields of law, foreign affairs and military affairs as well as Party and government workers who can keep abreast of developments in modern science and culture and the technological revolution. All these people should be persons of moral integrity with lofty ideals, well educated and disciplined, have an ardent love for the socialist motherland and the socialist cause, and work with dedication for the prosperity of the country and the people. They should constantly pursue new knowledge and cultivate the scientific spirit of seeking truth from facts, thinking independently and daring to make innovations. This presents a tremendous and arduous task in the development of China's education and the reform of the educational structure.

Since the founding of New China, our education has taken a tortuous course in its development. By taking over and transforming education in the early days of liberation and effecting educational reform through the re-arrangement of college and university faculties, we succeeded in turning old China's semi-colonial, semi-feudal education into a socialist one. In the past thirty years or more, thanks to the painstaking efforts of countless educational workers, we have accomplished remarkable achievements in education, registering an enormous progress unparalleled in Chinese history. The overwhelming majority of educated workers and the backbone activists working in all fields of endeavour today were trained after the founding of the People's Republic. However, for many years since the late 1950s, due to the Party's failure to shift its focus to

economic development and the influence of the "Left" theory that stressed "class struggle as the key link," education was not given the prominence it deserves. Instead, it was constantly disrupted by "Left" political movements. The "Left" error reached its culmination in the years of the "cultural revolution," when the need for knowledge was negated and education abolished. As a consequence, our educational cause was seriously damaged and large numbers of our educational workers were bitterly persecuted. The education of a whole generation of young people was disrupted, and the educational gap between China and developed countries, which had been narrowing, widened again.

Following its Third Plenary Session, the Eleventh Party Central Committee realigned the guiding principles and issued a series of new judgments and policy decisions on education, thus enabling it to revive and develop vigorously. However, erroneous ideas that belittle education, knowledge and skilled people have persisted, the influence of "Left" ideas in education have yet to be eradicated, and a fundamental change is required in order to gear education to the needs of socialist modernization. The backwardness of our education and the defects in the educational structure have become all the more obvious in face of current developments resulting from our policy of opening to the outside world, invigorating the domestic economy and carrying out a comprehensive restructuring of the economy and in face of the new-rising technological revolution worldwide. The major problems are as follows:

1. Government departments in charge of educational administration are exercising too rigid a control over the schools and, particularly, over the colleges and universities, depriving them of their vitality. On the other hand, these departments have failed to manage effectively matters that are well within their jurisdiction.

2. In matters of educational structure, our elementary education is inadequate, there are not enough good-quality schools and there is a serious shortage of qualified teachers and basic facilities. Besides, vocational and technical education, which is most urgently needed for economic development, has not expanded as expected, while there is a lop-sided arrangement of various disciplines and levels of higher education.

3. In matters of the guiding ideology, course content and teaching methods, not enough attention has been paid to helping students develop, from early childhood, the ability to live and think independently and fostering students' high resolve to make the motherland prosperous and strong. Nor have enough efforts been made to educate them in Marxism in a vivid and lively way. Many course textbooks are outdated, teaching methods stereotyped and practice sessions ignored, and the specialities now offered cover a very limited range of academic subjects. All this indicates that education in our country is divorced, to varying degrees, from the needs of economic and social growth and lags behind the scientific and cultural development of the present-day world.

The Party Central Committee holds that in order to bring about a fundamental change in the situation, it is necessary to start with a systematic reform of the educational structure. In reforming the administration system, while strengthening overall-control, we must take resolute steps to streamline administration, devolve power on units at lower levels so as to extend the schools' decision-making power in the administration of school affairs. In readjusting educational structure, we should also reform the labour and personnel system. Moreover, it is necessary to reform any guidelines, course content and teaching methods that are at odds with socialist modernization. Through these reforms, we mean to usher in a new educational situation in which elementary education will be substantially strengthen-

ed, vocational and technical education will be greatly expanded, colleges and universities will be able to exploit their potential and exercise their initiative to the full, outside-school and after-school education as well as regular school education will develop simultaneously, and education of all kinds and at all levels will actively address the multiple needs of economic and social development.

Education cannot be promoted without increased funds. For the foreseeable future, central and local government appropriations for educational purposes will increase at a rate faster than the increase in the state's regular revenues, and the average expenditure on education per student will also increase steadily. There are now some leading cadres at every level who would rather spend money on unnecessary items and are not upset at prodigious wastes, but who would not have the smallest sum of money allocated for the development of education. This must change. However, we must be aware that the amount of state investment in education is, after all, determined by the growth of the national economy, and we can only gradually overcome the shortage of funds for education and raise teachers' relatively low salaries. Therefore, the problem now is to make the most of our limited financial and material resources to strengthen education so as to meet the pressing needs of socialist modernization. To this end, it is necessary for us to carry out a series of reforms to mobilize effectively the initiative of governments at all levels, of countless students, teachers and other employees and of people from all walks of life, so that all of them, united as one and working with one mind, will help advance education year after year by offering proposals and putting their potential to the best use. This goal cannot be attained without strenuous efforts. All comrades of the Party and the people all over the country should work hard to this end.

II. ENTRUST RESPONSIBILITY FOR ELEMENTARY EDUCATION TO LOCAL AUTHORITIES, AND INSTITUTE NINE-YEAR COMPULSORY EDUCATION

The promotion of nine-year compulsory education and having local authorities take charge of elementary education, which is to be administered by departments at different levels, constitute a basic link in developing education and in reforming its structure. Compulsory education is national education which all school-age children and youths receive by law and which the state, community and families are required to support. Being essential to production and to modern life, such education is a hallmark of modern civilization. China's elementary education is still backward. This is in sharp conflict with the people's urgent demand for building a prosperous and powerful socialist country which is highly democratic and civilized. Under no circumstances can we allow this state of affairs to continue. At present, we consider it entirely necessary and feasible to introduce nine-year compulsory education, place it at the top of our agenda as a matter of vital importance for the improvement of the quality of the nation and for the prosperity of the country, and call on the entire Party and people of all our nationalities to go all out to put it into effect step by step. To this end, we must formulate a law for compulsory education which, after being examined and approved by the National People's Congress, will be promulgated.

China being a vast country, with uneven economic and cultural development, the requirements and contents of compulsory education should vary from place to place. These places fall roughly into three categories:

The first category comprises cities and economically developed areas in the coastal provinces and some parts of the in-

terior, where one quarter of the country's population resides. Junior middle school education has become universal in many of these areas, while the rest must step up their efforts to make it universal by 1990 in accordance with the required quality and quantity.

The second category is composed of economically semi-developed townships and villages, where about half of the country's population resides. These areas must, first of all, make primary school education universal and up to standard and, at the same time, to make preparations to complete the spreading of regular junior middle school education or junior middle vocational and technical education around 1995.

The third category is made up of economically under-developed areas where one quarter of the country's population resides. These areas must, as economic development permits, take a variety of measures to spread elementary education in varying degrees. The state will do its best to assist these areas in educational development.

State assistance will be provided to areas inhabited by minority nationalities to speed up the development of education there as well.

Local people's congresses will draw up regulations concerning compulsory education in light of local conditions and will make decisions on the measures, methods and deadlines for the enforcement of the nine-year compulsory education system.

While implementing the nine-year compulsory education system, we should strive to develop pre-school education and special education for the blind, the deaf and mute, the handicapped and retarded children.

Building a mighty contingent of qualified and dedicated teachers is a fundamental guarantee for the success of compulsory education and for better elementary education. To this end, it is necessary to take specific measures to raise the social

status and material benefits of the teachers of secondary and primary schools and kindergartens and to encourage them to make education their lifelong career. In the meantime, further training for existing teachers and assessments of their performance should be conducted in earnest. Developing normal school education and providing teacher training are measures of strategic significance for the development of education. Teachers should be encouraged to teach themselves and each other in the subjects they are teaching. Correspondence courses as well as radio and television lessons should be arranged for them. Schools and colleges that provide advanced studies for teachers should be well run, and all facilities now available should be used for their further training on a rotation basis. Furthermore, it is necessary to encourage, select and organize a number of teachers and senior students from universities and colleges, research workers from research institutions as well as qualified cadres from Party organizations and government departments to assist in the further training of secondary and primary school teachers. In short, the purpose is to ensure that in the next five years or so, the great majority of teachers will be qualified for the jobs they hold. After that, only those who have received the required schooling or obtained qualification certificates are allowed to serve as teachers. Vigorous efforts should be made to step up and strengthen the training of teachers for secondary and primary schools and kindergartens. Teachers' schools and colleges must adhere to the principle of serving elementary and secondary education, and all their graduates must be assigned to schools to take up the job of teaching. A certain number of graduates from other colleges and universities should also be sent to schools to be teachers. No government departments or any other units shall be allowed to transfer qualified teachers from secondary or primary schools to other jobs.

The power for the administration of elementary education belongs to local authorities. Except for major policies and principles and general plans that are to be determined by the central authorities, all other responsibilities and powers are to be delegated to local authorities for drawing up and implementing specific policies, rules and regulations, and plans as well as for guiding, administering and monitoring the work of the schools. The authorities of the provinces, autonomous regions and centrally administered municipalities will define the functions and powers for administrative departments at the provincial, municipal (prefectural), county and township levels. In addition to state appropriations, all local authorities are required to allocate a proper percentage of their reserve funds for educational purposes so as to promote education in all places. Most of township revenues should be used for education. The local authorities may levy an extra tax for education, which shall be used exclusively to improve teaching facilities for elementary education. They should encourage state-owned enterprises, public organizations and individuals to run schools and provide them with guidance. Also, they can encourage units, collective undertakings and individuals to make financial donations to help develop education, but of their own accord, not by exaction. In order to ease the schools' economic burdens, fees charged to schools by various quarters must be strictly controlled.

III. RESTRUCTURE SECONDARY EDUCATION AND VIGOROUSLY PROMOTE VOCATIONAL AND TECHNICAL EDUCATION

Our socialist modernization not only requires senior scientific and technical experts but also urgently requires millions of intermediate and junior engineers, managerial personnel and

technicians who have received adequate vocational and technical education as well as urban and rural workers who are well-trained vocationally. Without a huge contingent of such workers and engineers, advanced sciences and technologies and sophisticated equipment cannot be translated into productive forces. Vocational and technical education constitute the weakest link in the whole chain of China's education. Therefore, it is imperative that we take effective measures to change this situation and strive for a major step forward in this respect.

We have failed to make a genuine breakthrough in the development of vocational and technical education, although we have stressed its need for many years. An important reason for this failure lies in the fact that for a long time we have not set political, cultural and technical standards for those to be employed and that the out-worn concept of belittling vocational and technical education is deeply rooted. It is, therefore, necessary to conduct education for the purpose of fostering the concept inside and outside the Party that it is an honour to work in any trade or profession, that each promises brilliant careers for its best workers, and that anyone seeking a job must meet certain political, cultural and technical qualifications. Moreover, side by side with the restructuring of education we should carry out reform in relevant rules and regulations of our labour and personnel system, putting into effect the principle of "training before employment." From now on, all units must, first of all, employ graduates from vocational and technical schools. No one, particularly those to be engaged in highly specialized and technical work, shall be allowed to take up the job unless he has received his qualification certificate, just like a chauffeur who is not allowed to drive without obtaining a driving license through examination. In this connection, the departments concerned should work out rules and regulations for the gradual adherence to this practice.

To meet the need for vigorous development of vocational and technical education, our young people, beginning at the middle school level, should generally be divided into two groups, with one group of junior middle school graduates entering regular senior middle schools and the other receiving senior middle vocational and technical education; one group of senior middle school graduates entering regular colleges and universities and the other receiving senior vocational and technical education. Those primary school graduates who have received junior middle vocational and technical education can either start work or enter higher-level schools. Those students who are not admitted to regular senior middle schools, regular colleges or universities, or vocational and technical schools can get jobs after completing short-term vocational or technical training. We should take maximum advantage of existing specialized secondary schools and technical workers' schools by increasing their enrolment of new students and should systematically transform a number of regular senior middle schools into vocational ones or set up vocational classes or start new schools of this type so that, within five years, enrolment in senior middle vocational and technical schools will equal that of regular senior middle schools in most places. This should put an end to the existing irrational structure of our secondary education.

In developing vocational and technical education we should focus on secondary vocational and technical education and emphasize the central role of specialized secondary schools. At the same time, we should make an effort to develop advanced vocational and technical institutions that will first enrol those who have graduated from secondary vocational or technical schools with the required specialized training as well as those employees who are experienced in their special lines and have passed the entrance examinations. Thus, we shall gradually establish a system of vocational and technical education with

a rational structure, ranging from elementary to advanced levels, embracing all trades and linking up with regular education.

Secondary vocational and technical education should be geared to the needs of economic and social development. It should meet the need for improving the technology and management of enterprises and expanding the tertiary industry in the cities, and the need for readjusting the set-up of production in the countryside and the peasants' need for achieving prosperity through hard work. We must stress the training of professional skills, which should cover a wide area and be coupled with an appropriate portion of general education so that it will provide long-term and wide options for jobs and meet the requirements of technical renovations and advanced studies. At the same time, we should pay more attention to education in professional ethics and discipline.

We should bring into full play the initiative of enterprises and establishments as well as the departments concerned in developing vocational and technical education. We should encourage individuals, collectives and other sectors to run schools and urge all units and departments to set up vocational and technical schools on their own or in co-operation with each other or with educational departments. Apart from training personnel for their own units or departments, these schools can be entrusted with the task of training personnel for other units and enrol self-supporting students.

The serious shortage of teachers poses an acute problem in developing secondary vocational and technical education at present. Units and departments that run vocational and technical schools should, first of all, recruit teachers from among their own personnel. In the meantime, they can invite teachers and scientists and engineers from other units to serve as part-time teachers, and also specialized technicians and master craftsmen to impart their technical skills and expertise. Several

vocational and technical normal schools and colleges must be established, and the colleges, universities and research institutions concerned should undertake the training of teachers for vocational and technical schools, so that there will be no lack of specialized teachers. The local authorities have the chief responsibility for running such schools, and they are expected to assist and cooperate with the departments of the central authorities in the undertaking.

IV. REFORM ENROLMENT PLANNING OF THE INSTITUTIONS OF HIGHER EDUCATION AND THE SYSTEM OF JOB ASSIGNMENT ON GRADUATION AND EXTEND THEIR DECISION-MAKING POWER

Institutions of higher education are charged with the important tasks of training advanced specialized personnel and of developing science, technology and culture. China's strategic goal in the development of higher education is: By the end of the century, China will have built a well-proportioned, rationally-tiered system embracing a complete range of disciplines and areas, on a comprehensive scale conforming to its economic strength; senior specialists will be trained basically at home; and the institutions of higher education will contribute substantially to China's independent scientific and technological development and to solving major theoretical and practical problems that crop up in the course of socialist modernization. To attain this goal, the key to restructuring higher education lies in eliminating excessive government control over the institutions of higher education and, under the guidance of the state's unified policies and plans in education, extending the decision-making power of the colleges and universities and strengthening their

ties with production units, scientific research institutions and similar sectors, so that they will have the initiative and ability to serve economic and social development.

Enrolment planning and job assignment for graduates from colleges and universities should be reformed. Unified enrolment of all the students for colleges and universities in accordance with state plans and guaranteed job assignment for all graduates by the state shall be replaced by the following three methods:

1. Enrolment according to state plans. It is necessary to do a good job of overall planning for the development of higher education and making medium- and long-term estimates of the demand for skilled people so as to improve enrolment planning and prevent it being divorced from the state's immediate and long-range requirements. With regard to graduates under this category, they will be assigned jobs in line with state plans and in light of their own wishes as well as the recommendation of their schools and choice of the units wishing to employ them. In order to ensure that a certain number of graduates will go to work in outlying areas and in trades and professions where working conditions are harsh, a number of students, forming a fixed proportion in the state plan, will be enrolled from these areas and trades and professions. Preferential treatment will be accorded to those graduates who go to work in these areas. A certain number of students should be trained for the People's Liberation Army to meet the needs of national defence.

2. Enrolment by commission from units that need graduates. This practice has been proved effective in recent years and it should be carried further in order to encourage schools to make the best use of their resources, enrol more students and meet the demand for skilled personnel. It should be made a major complement to the state enrolment plans. The units concerned should pay a certain amount of training fees as prescrib-

ed in the contracts they have signed with schools, and the graduates will be assigned to work in these units in accordance with the contracts.

3. Enrolment of a small number of self-supporting students outside the state plan. These students will pay tuition for their training. After graduation, they may find jobs by themselves or be employed through their schools' recommendations.

Students in all three categories must pass state examinations before they may be enrolled.

The people's grant-in-aid system shall be reformed. For students in normal schools and those who will work in hardship after graduation, the state will bear their board and lodging expenses, and their tuition and fees for extras will be waived. Scholarships will be granted to students with distinguished academic records and subsidies to those who are unable to support themselves.

However, former regulations will continue to apply to students who are already enrolled in colleges and universities.

Decision-making power should be extended for colleges and universities. So long as state policies and decrees are executed and state plans fulfilled, institutions of higher education have the power to accept commissions for training students and enrol self-supporting students outside state plans; to redefine the goals of different specialities, draw up teaching plans and syllabuses, compile and select teaching materials; to accept commissions from, or cooperate with, other units in scientific research and technological development and in forming associations for teaching, scientific research and production; to appoint or remove vice-presidents and other cadres at various levels; to decide how to use the funds allocated by the state for capital construction and other purposes; to use the funds collected by themselves for educational and academic exchanges with other countries; and so on. Moreover, in the light of differing con-

ditions in different colleges and universities, the state will endow them with other powers. At the same time, the state and its departments in charge of education will strengthen overall guidance and control of higher education. These departments will, at regular intervals, bring together people from educational and intellectual circles and units to assess the performance of the colleges and universities, honour the most successful ones and lend them substantial material support, and reorganize or even dissolve the unsuccessful ones.

In order to bring out the initiative of governments at various levels in running schools, a system will be introduced by which colleges and universities will be run by the three levels of the central authorities, the provinces (and the autonomous regions and centrally-administered municipalities) and the key cities. Those run by the central and local departments should give first priority to the demands of these departments for skilled personnel. At the same time, they should exert themselves to accept commissions and train students for other departments and units. Central and local departments should be encouraged to join forces in running schools.

The readjustment and restructuring of higher education should serve the needs of economic and social development and scientific and technological progress. It is necessary to change the irrational distribution of disciplines offered by the institutions of higher education, step up the growth of such weak departments and specialities as finance and economics, political science and law, and management, and foster new-rising and frontier disciplines. The ratio of advanced professional schools to colleges should be adjusted, and stress should be laid on the development of the former. Colleges should maximize their potential through reform, expansion and associations of all kinds, but generally no new ones will be built in the near future.

It is imperative to act on the decision of the Party Central

Committee concerning the reform of the science and technology management system and take advantage of the colleges and universities that already enjoy a complete range of disciplines and a large number of teachers, postgraduates and senior class undergraduates, so that these colleges and universities will make greater contribution to the development of science and technology. To strengthen scientific research and produce competent specialists, it is necessary to improve postgraduate studies and systematically establish a number of new key disciplines in those colleges and universities that are best qualified according to peer review. Colleges and universities where major disciplines concentrate will naturally serve as centres for both education and scientific research.

In the course of restructuring higher education, an extremely urgent task is to reform course content and teaching methods and improve teaching quality by integrating theory with practice and according to dialectical and historical materialism. To eliminate existing defects, experiments should be conducted in the course of reforming teaching, such as broadening the areas covered by different specialities, simplifying or updating course content, adding practice sessions, reducing the number of required courses and increasing electives, introducing a course credit system and dual degrees, leaving students more time for individual study and extracurricular activities, expanding the work-study programme and so on. To improve the quality of teaching and raise the academic level of teachers in colleges and universities, where conditions permit, all professors and associate professors who are shouldering a heavy teaching load will have one year out of every five for advanced studies, scientific research, or academic exchanges. Teaching facilities should be improved as much as possible by increasing modern equipment, and updating and replenishing laboratories and libraries.

The reform of services in institutions of higher education is of utmost importance to ensuring the smooth progress of educational reform. The solution is to enlist help from society at large. Local leading Party organizations and governments are responsible for its success.

V. STRENGTHEN LEADERSHIP AND MOBILIZE ALL POSITIVE FACTORS TO ENSURE SUCCESSFUL RESTRUCTURING OF EDUCATION

In the restructuring of education, it is essential to take into account the special features of educational work and adhere to the principle of seeking truth from facts and proceeding from realities. While fundamental principles should be the same everywhere, concrete methods should be flexible and varied. In no case must we rush reform into mass action and implement it by force. It should be carried out firmly and cautiously, with the stress on experiment. All reform measures that have a bearing on the general situation or cover an extensive range should be approved by higher authorities.

Throughout the educational restructuring, it is imperative to keep the fundamental aim in mind, namely, to enhance the nation and produce as many skilled people as possible. The fundamental criterion for appraising the performance of a school is the quantity and quality of people it has trained, not its economic gains. One would lose one's bearings in the reform unless one adheres to this criterion.

In order to strengthen Party and government leadership over education, the State Commission of Education will be established to monitor the implementation of major principles and policies concerning education, make overall arrangements

for the development of educational undertakings, coordinate educational work of various departments, provide general plans and guidance for educational reform. While administration is being streamlined and power being devolved on subordinate units, legislation regarding education should be stepped up. From now on, local authorities will have more power and bear greater responsibility for the development of education. Party committees and governments at all levels should, in accordance with the policy decisions made by the Twelfth Central Committee of the Party, give strategic priority to education and make its development one of their chief tasks and an essential factor in their appraisal of their subordinates' performance. It should be pointed out, in particular, that after the institution of the responsibility system for production in the rural areas, the Party's grass-roots organizations there should devote more attention to the cultural and technical as well as ideological and political education of Party members and the masses and to educational undertakings in their own villages or townships. The Central Committee of the Party believes that under the new economic and educational structures, local authorities will have greater opportunities to quicken the development of education by making better use of their economic and cultural resources. It should be acknowledged that economic and cultural development is uneven not only between the various provinces, municipalities and autonomous regions, but also within every province, city and county. It is, therefore, imperative to encourage some areas to develop first and in the meantime encourage the developed areas to help the less developed ones to catch up with them.

In reform, it is necessary to allow more initiative to all quarters and, most importantly, to teachers. In China, there are nearly 10 million teachers, the overwhelming majority of whom live up to the high standards of their profession, having

been, over the years, unswerving in their faith in the Party, in their love for the socialist motherland and in their devotion to the people's educational cause, despite hardships and political upheavals. In restructuring education, we must firmly rely on the teachers, heed their opinions and let them play their role to the full. Major reform measures concerning specific schools must not be taken without prior discussion by those schools' teachers. With the growth of the national economy and the state's financial resources, governments at all levels and the relevant departments should make a point of solving several practical problems for teachers every year from now on. We should foster and carry forward the fine tradition that all teachers are held in high esteem, making teaching one of the most respected professions in the community. At the same time, we should also encourage the initiative of ideological and political workers, administrative and managerial personnel, service and other personnel. They should be given appropriate material rewards and encouragement according to their performance.

The system under which the principal or president assumes full responsibility should be gradually applied. Where conditions permit, an administrative committee or senate headed by the principal or president and composed of a small number of prestigious people should be established to exercise the power of review and supervision. The system of congresses of teachers and other employees, with teachers as the core, should be established and strengthened in order to ensure more democratic management and supervision. Party organizations in schools should abandon the practice of monopolizing the management of everything so as to concentrate on strengthening Party building and improving ideological and political work. They should unite the teachers and students, strongly support the principals or presidents in the execution of their functions and powers, guarantee and supervise the implementation of the Party's var-

ious principles and policies and the fulfilment of the state's educational plans. They should persist in educating the teachers and students in Marxism, inspire them with the resolve to forge ahead courageously and contribute to the prosperity of our motherland, and guarantee that students develop morally, intellectually and physically, so as to help make the schools truly sturdy bulwarks against the corrosive influence of capitalist and other decadent ideas and firm bases for the building of a socialist civilization of a high cultural level.

We should mobilize and urge the entire Party and people from all walks of life throughout the country to support and get involved in the restructuring of education and help develop our education. We should encourage all the democratic parties, mass organizations, public bodies, retired cadres and intellectuals, collective economic units and individuals to contribute actively and voluntarily to the development of education in various ways in accordance with the principles and policies laid down by the Party and government.

To benefit the restructuring of education, we should analyse our past and present experience and, at the same time, draw on both the positive and negative experience of other countries in their effort to develop education. In particular, the new technological revolution, the new scientific and technological achievements, the opening up of new areas in science and technology as well as the emergence of new means of acquiring and transmitting information have exerted an enormous influence on education. The experience acquired by advanced countries in these fields merits special attention. We should increase our exchange with foreign countries through all possible channels and build our education on the basis of the achievements of contemporary world civilization.

The present decision focuses on the question of restructuring school education. Adult education, which involves cadres,

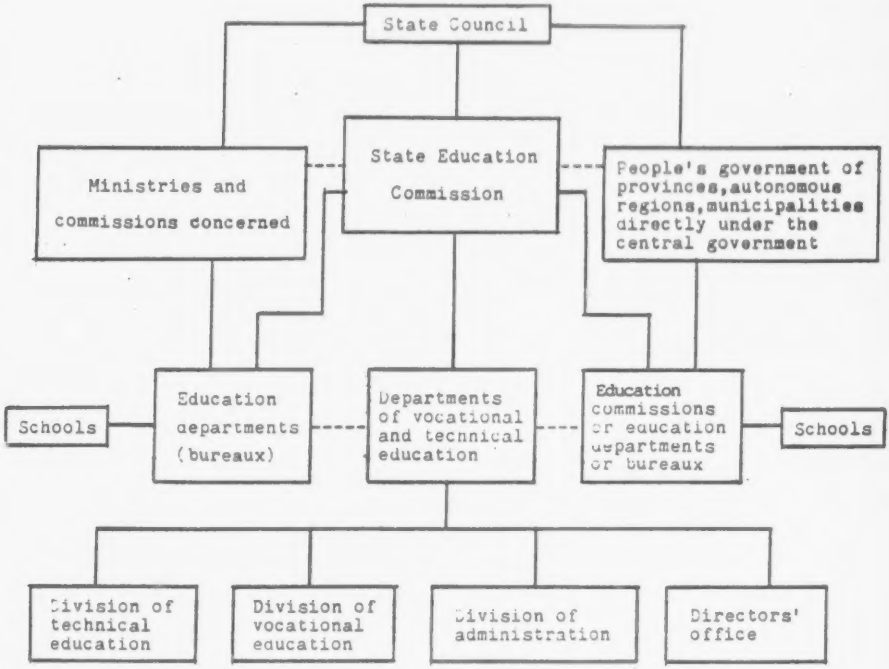
workers and other employees, and peasants, and radio and television education are essential components of China's education as a whole. The State Commission of Education should make a separate decision on improving and strengthening the work in these fields.

As for education reform in the army, decisions will be made by the Central Military Commission.

The Central Committee of the Party is convinced that reform of the educational structure will succeed and that socialist education with Chinese characteristics will flourish as never before, provided that Party committees and governments at all levels exercise better leadership and adhere to sound policies and that the entire Party membership, people from all walks of life and from all our nationalities in the country work together. This success will give a strong impetus to China's socialist modernization and help raise to a new high the cultural and scientific level of its people and greatly broaden their mental horizons.

ANNEX III

ADMINISTRATIVE STRUCTURE
(1985)

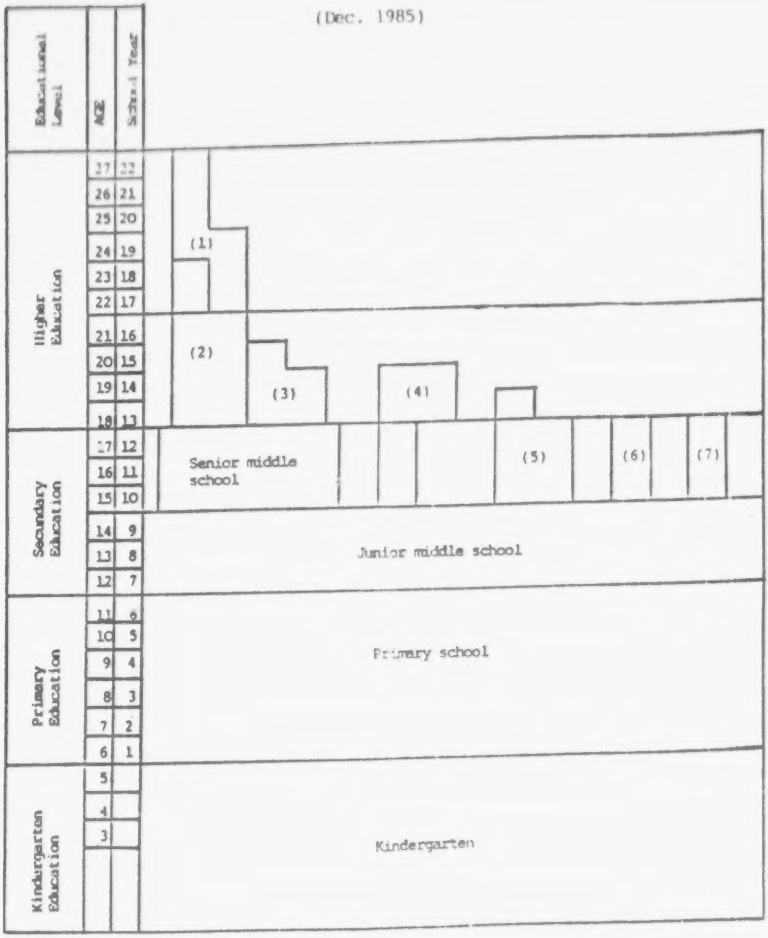

State Council
Ministries and commissions concerned
State Education Commission
People's government of provinces, autonomous regions, municipalities directly under the central government
Schools
Education departments (bureaux)
Departments of vocational and technical education
Education commissions or education departments or bureaux
Schools
Division of technical education
Division of vocational education
Division of administration
Directors' office

NOTE: New organizations of the State Education Commissions have yet to be established.

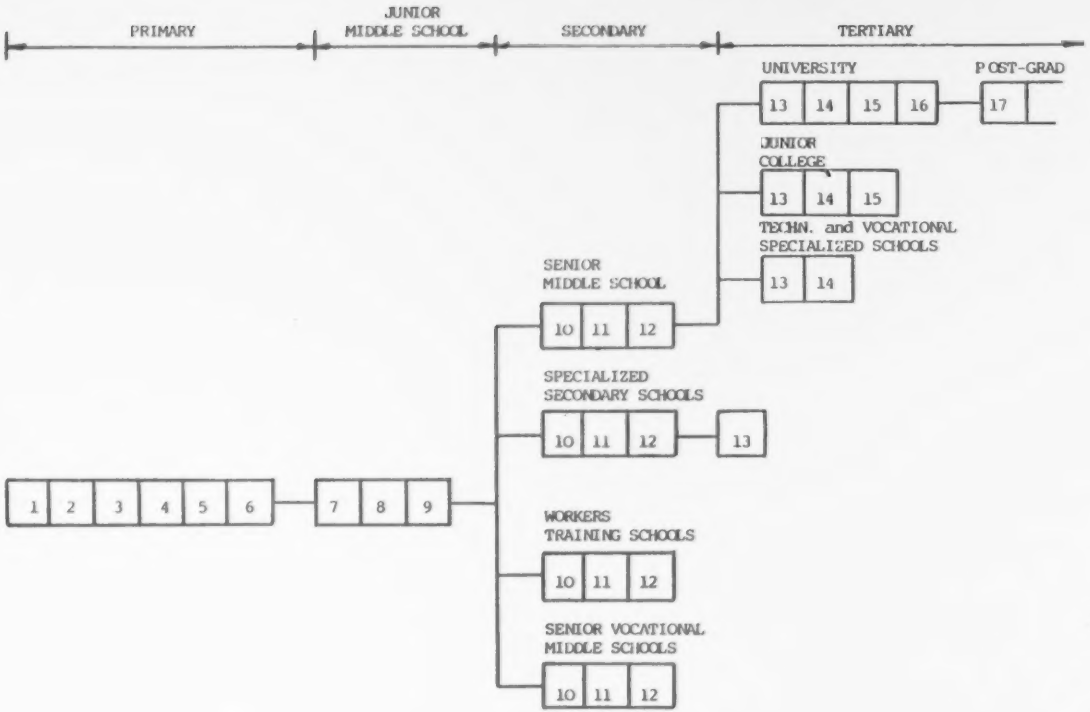
ANNEX IV

DIAGRAM OF A SERIES
OF SCHOOL SYSTEMS

(Dec. 1985)



(1) Post-graduate
(2) University and College
(3) Junior College
(4) Technical and Vocational Specialized School
(5) Specialized Secondary School
(6) Workers Training School


PRIMARY
JUNIOR MIDDLE SCHOOL
SECONDARY
TERTIARY
UNIVERSITY
13 14 15 16
POST-GRAD
17
JUNIOR COLLEGE
13 14 15
TECHN. and VOCATIONAL SPECIALIZED SCHOOLS
13 14
SENIOR MIDDLE SCHOOL
10 11 12
SPECIALIZED SECONDARY SCHOOLS
10 11 12 13
1 2 3 4 5 6
7 8 9
WORKERS TRAINING SCHOOLS
10 11 12
SENIOR VOCATIONAL MIDDLE SCHOOLS
10 11 12

ANNEX V

NUMBER OF STUDENTS
ATTENDING
SENIOR SECONDARY LEVEL SCHOOLS

(Full-time school)

School year	1984/1985	
Types of schools	Students both male and female (in thousands)	Students both male and female
Ordinary middle schools	6,898	68.4
Specialized secondary schools	811	8.1
Workers training schools	628	6.2
Vocational schools	1,745	17.3
TOTAL	10,082	100.0

DIAGRAM I

NUMBER OF STUDENTS
ATTENDING
SENIOR SECONDARY LEVEL SCHOOLS

(Part-time school)

Types of schools	1984/1985	%
School year	Students male and female	Students male and female
Middle schools for workers and employees	1.134	25.3
Middle schools for peasants	104	2.3
Radio and television specialized secondary schools	1.020	22.8
Specialized secondary schools for workers and employees	1.627	36.3
Specialized secondary schools for cadres	33	0.8
Specialized secondary schools for peasants	561	12.5
TOTAL	4.479	100.0

DIAGRAM II

NUMBER OF STUDENTS
ATTENDING
VARIOUS TYPES OF SPECIALIZED

(full-time school)

School year	1984/1985	%
Field	Students male and female	Students male and female
Engineering schools	275	33.9
Agricultural schools	86	10.7
Forestry schools	16	2.0
Schools of medicine	182	22.4
Schools of economics and finance	182	22.4
Schools of political science and law	36	4.4
Physical culture schools	8	1.0
Art schools	19	2.4
Other schools	7	0.9
TOTAL	811	100.0

DIAGRAM III

THE RATIO OF STUDENTS ATTENDING VARIOUS
TYPES OF SCHOOLS (full-time school)

(in thousands)

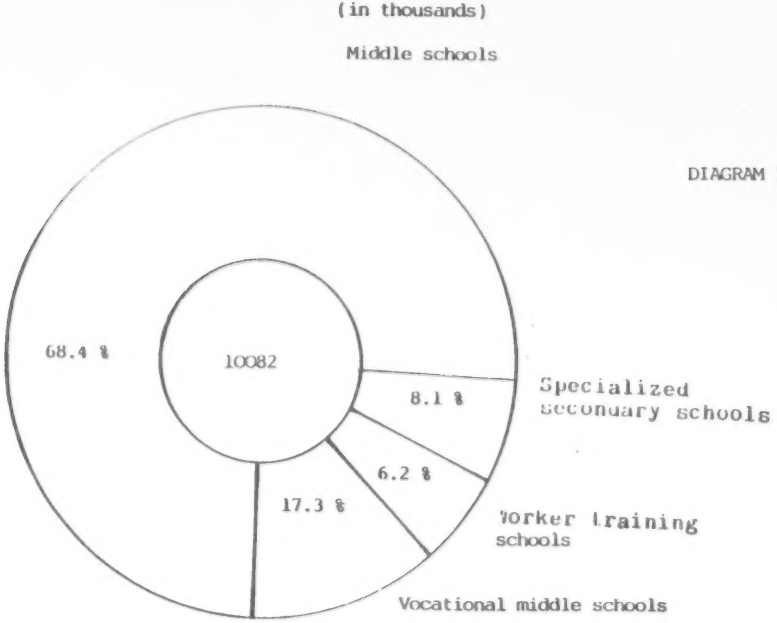


DIAGRAM IV A

THE RATIO OF STUDENTS STUDYING VARIOUS FIELDS AT A SPECIALIZED SECONDARY SCHOOL (full-time-system)(in thousands)

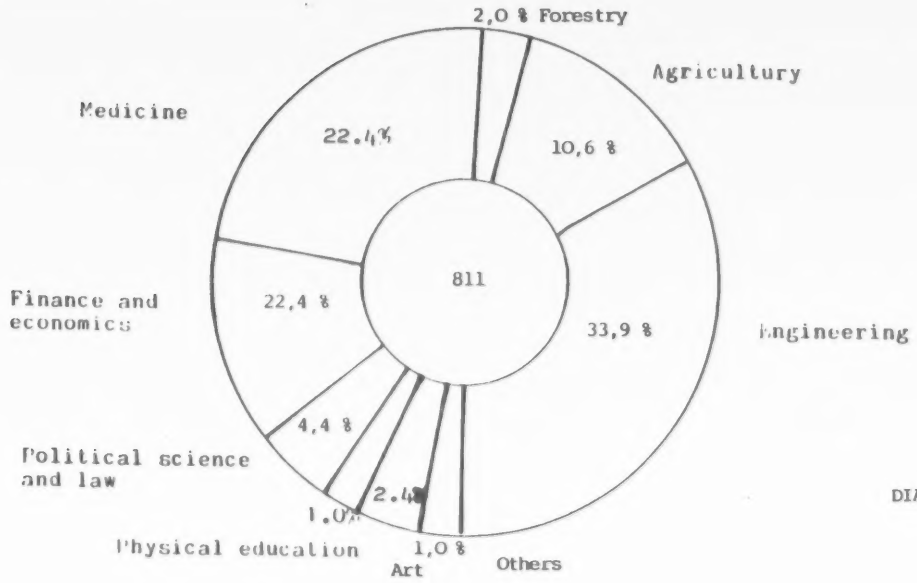
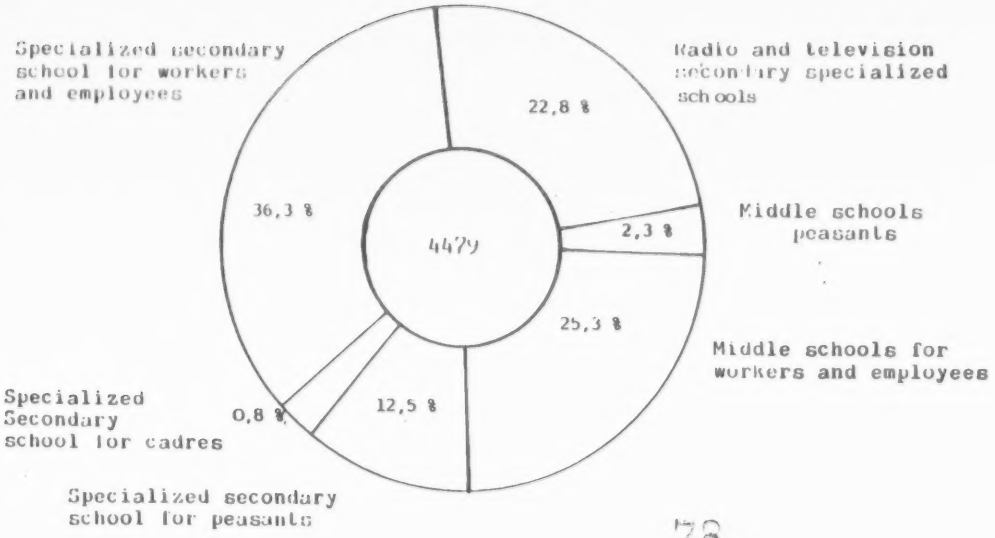


DIAGRAM IV B

THE RATIO OF STUDENTS ATTENDING VARIOUS TYPES OF SCHOOLS (part-time school)
(in thousands)

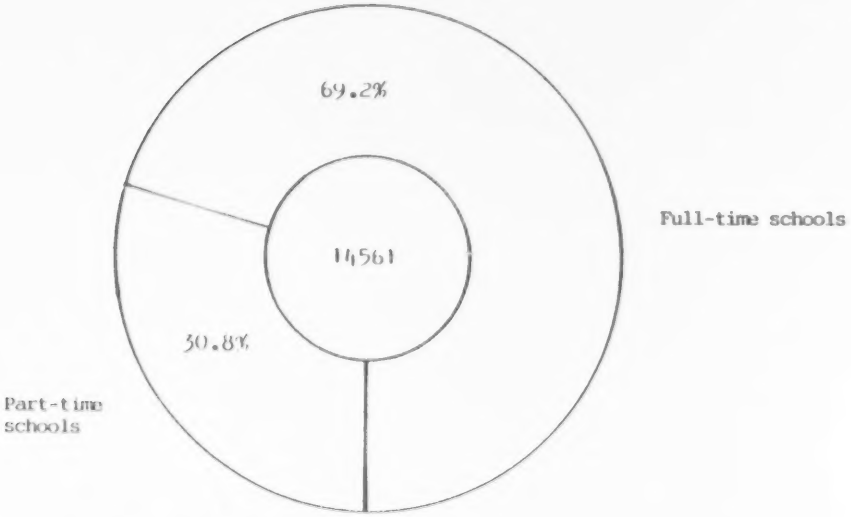
DIAGRAM IV C



THE RATIO OF STUDENTS ATTENDING FULL-TIME AND PART-TIME SCHOOLS

(in thousands)

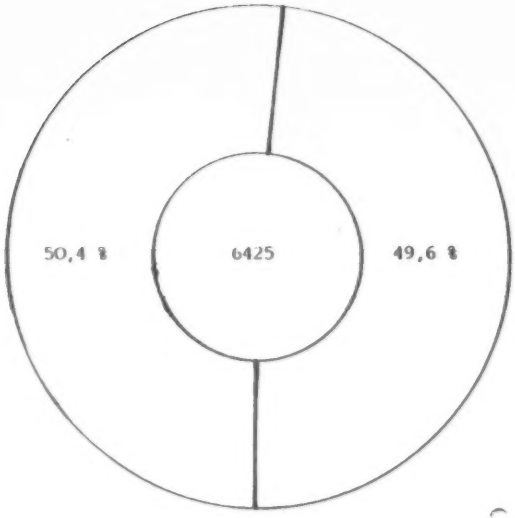
DIAGRAM IV D



THE RATIO OF STUDENTS ATTENDING
FULL-TIME AND PART-TIME TECHNICAL
AND VOCATIONAL SCHOOL

(in thousands)

DIAGRAM IV E



Part-time technical and vocational schools

Full-time technical and vocational schools

CURRICULUM OUTLINE

School: Specialized secondary school | Level: Senior secondary education | Age: 16--18
Field: Engineering | Course: Machine building | Duration of study: four years

	Subject	Periods per week: 1st Year Semester 1	1ST	2	10W	2nd Year Semester 1	10W	2	10W	3rd Year Semester 1	10W	2	10W	4th Year Semester 1	14W	2	10W		%
General Courses	Politics	2		2		2		2		2		2		2		2		224	
	Physical education	2		2		2		2		2		2		2		2		224	
																			14.0
Basic Courses	Science	4		4		4		4										244	
	Mathematics	6		6		6		6										366	
	Physics	6		4														198	
	Chemistry	3		3														99	36.5
	Foreign languages	3		3		3		3		3		3						264	
General Technical courses	Engineering graphics	4		1	5		5		3									216	
	Theoretical mechanics					5	1	5	1	3	1							112	
	Mechanics of materials									5	1							84	
	Principl of machinery and spare parts									4		6						134	
	Electrical engineering and industrial electronics									4,5	1,5	5	1					162	28.3
	Metallurgy					4,5	0,5	4,5	0,5									140	
	Application of computers															5	1	60	
Special Technical courses	Tolerance and measuring techniques									3,5	0,5	2,5	0,5					95	
	Theory of metal cutting and cutting tool											4,5	0,5	2,5	0,5			107	
	Metal-cutting machine tool													5,5	0,5	6		144	
	Machine tool hydraulic press													3	1	3		86	21.2
	Machine building tecnology													4		5,5	0,5	116	
	Fixture design of machine tools													4,5	0,5			70	
	Principl of economic and technical management															6		60	
Total class periods		30		27		24,5		24,5		24		25		23,5		29,5		3205	75.4
Total lab. periods				1		1,5		1,5		3		2		2,5		1,5			
Total U/S periods		24/36		44/36		54/36		54/36		54/36		54/36		54/36		54/36		1044	24.6
Total practice periods		36		39		40,5		40,5		39		38		38,5		1,5			
Grand Total		582		624		586		586		558		531		472		310		4249	

Note: Seven weeks of diploma-winning design work and eight weeks of course design work totalling 450 periods in 15 weeks, are not include in this outline

CURRICULUM OUTLINE

School: Workers Training school | Level: Senior secondary education | Age: 16--18
Field: Engineering | Course: Cold manufacturing processes | Duration of study: three years

Subject	Periods per week: 1st Year Semester 1	1st Year Semester 10W	1st Year Semester 2	1st Year Semester 10W	2nd Year Semester 1	2nd Year Semester 10W	2nd Year Semester 2	2nd Year Semester 10W	3rd Year Semester 1	3rd Year Semester 10W	3rd Year Semester 2	3rd Year Semester 10W		%
Politics	4		4		2		2		4		4		180	
Physical education	2		2		2		2		2		2		110	
														16.2
Chinese	6		6											
Mathematics	6		6		4		4						114	
Physics	4		4										194	
													116	
														23.7
Mechanical Drawing	6		6		6		4							
Engineering mechanics					6		6						214	
Metals and Heat treatment					4		4						120	
Principl of machinery							6		6		6		80	
Principl of electrical engineering									8		8		156	38.9
Fundation of machine builing technology									6		6		128	
Special technology			4		4		4		6		6		96	
Management of enterprises									2		2		252	
													32	
														21.2
Practice		36		36		42		42		48		48	2580	
Total class periods	32		32		32		32		34		34		1792	41.0
Total lab. periods														
Total W/S periods		36		36		42		42		48		48	2580	59.0
Total practice periods		36		36		42		42		48		48		
Grand Total	612		680		740		740		820		780		4372	

ANNEX VII

NAMES OF EXECUTIVE OFFICIALS

Director MENG GUANGPING

Deputy Director SUN ZHENHAN

Deputy Director WEN YOUXIN

of the

Department of

Vocational and Technical Education

of

the State Education Commission

ANNEX VIII

ADDRESS

Ms. WU JICHEN

Office of the Department
of Vocational and Technical
Education of the State
Education Commission of
the PEOPLE'S REPUBLIC
OF CHINA

№ 37, Damucanghutong,
Xidan,
BEIJING, China

STUDIES IN TECHNICAL AND VOCATIONAL EDUCATION (cont'd)

13. Elaboration des programmes d'enseignement technique et professionnel - URSS (1983, French).

14. Content of General Education in Technical and Vocational Schools - USSR (1985, English).

15. Les disciplines d'enseignement général dans les programmes de l'enseignement technique et professionnel - France (1985, French).

16. Organization of Centralized Workshops - USSR (1985, English).

17. The Content of General Education in Technical and Vocational Education Programmes in the United Kingdom (1985, English).

18. Mobile Units for Vocational Education - USSR (1985, English).

19. Design and Use of Mobile Units for Technical and Vocational Education - Denmark (1985, English).

20. Technical and Vocational Education in the Arab Gulf Countries (1985, Arabic).

21. Content of General Education in Programmes of Technical and Vocational Education - Finland (1985, English).

22. Innovations in Technical Teachers' Training - Ukrainian SSR (1985, English).

23. Training Apprentices in Industrial Training Workshops - German Democratic Republic (1985, English).

24. Innovations in Teacher Training in the Field of Agriculture - Federal Republic of Germany (1985, English).

25. The Application of Computing in the Teaching and Learning Process in Technical and Vocational Education in Australia (1985, English).

STUDIES IN TECHNICAL AND VOCATIONAL EDUCATION (cont'd)

26. Content of General Education in Programmes of Agricultural Technical and Vocational Institutions - Ukrainian SSR (1987, English).

27. Distance Learning for Technical and Vocational Education at Pre-University Level Establishments of Open Tech Type (1985, English).

28. Organization of Productive Work in Technical and Vocational Education in Kenya (1985, English).

29. Policy, Planning and Administration of Technical and Vocational Education in China (1985, English).

30. Contenido de Educación General en Curricula de Enseñanza Técnica y Profesional Secundaria y Post-Secundaria - Venezuela (1986, Spanish).